UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

AF31-2 - 001

June 26, 1997

MEMORANDUM TO: Don Lanham, DCB, DISS, ADM

FROM: Alan K. Roecklein, RPHEB, DRA, RES

SUBJECT: REGULATORY HISTORY FOR RESOLUTION OF DUAL REGULATION OF AIRBORNE EFFLUENTS OF RADIOACTIVE MATERIALS; CLEAN AIR ACT (10 CFR PART 20) (61FR65120, 12/10/96); FINAL RULE -- RIN 3150-AF31

Attached for your processing are regulatory documents considered to be of central relevance to the final rulemaking entitled "Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act (10 CFR Part 20). Also attached is an index of these documents. The designator assigned by the Rules Review and Directives Branch is AF31-2 and is noted in the upper right hand corner of the cover page for each document.

Attachments:
1. Index
2. Documents

cc w/att 1: Betty Golden, RRDB/ADM

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L-4-1 REGULATORY HISTORY

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REGULATORY HISTORY INDEX FOR

FINAL RULE

RESOLUTION OF DUAL REGULATION OF AIRBORNE EFFLUENTS OF RADIOACTIVE MATERIALS
(10 CFR PART 20)

RIN 3150-AF31

PDR

1. Public Comment Letters:

#1. Ltr from E. Exten, GenCorp Aerojet, dated 12/21/95
#2. Ltr from O. Paulson, Kennecott Energy, dtd 01/05/96
#3. Ltr from M. Loomis, Wyoming Mining Association, dated 01/10/96
#4. Email from J. Stephens, Colorado State, dtd 01/16/96
#5. Ltr from J.K.Haveman,Jr., State of Michigan, dtd 01/12/96
#6. Ltr from W. Chubb dtd 01/24/96
#7. Ltr from R.W.Granlund dtd 01/26/96
#8. Email from D.A.Johnson dtd 12/15/95
#9. Ltr from M.T.Ryan, Chem-Nuclear Systems, Inc., dtd 02/09/96
#10. Ltr from C.S.Marcus, ACNP, dtd 01/03/96
#11. Ltr from A.M.Maxin, NFS, dtd 02/28/96
#12. Email from M. Richard, IUPUI, dtd 03/05/96
#13. Ltr from T.P.Barton dtd 03/05/96
#14. Ltr from R.J.Dobey,Jr., U/Missouri, dtd 03/08/96
#15. Ltr from R.A.Meserve, Covington & Burling, on behalf of Kerr-McGee Chemical Corporation, dtd 03/11/96
#16. Ltr from J.H.Johnsrud, ECNP, dtd 03/06/96
#17. Ltr from J.H.Ellis, Sequoyah Fuels, dtd 03/07/96
#18. Ltr from J.H.Coleman, TVA, dtd 03/08/96
#19. Ltr from the Committee to Bridge the Gap dtd 03/11/96
#20. Ltr from J.G.Tripodes, U/CA-Irvine, dtd 03/11/96
#21. Ltr from R.L.Lawson, National Mining Association, dtd 03/12/96
#22. Ltr from J.F.Schmitt, NEI, dtd 03/12/96
#23. Fax from B. Geary dtd 03/12/96
#24. Ltr from Nuclear Information and Resource Service dtd 03/12/96
#25. Fax from D. Kiefer dtd 03/12/96
#26. Ltr from R.L.Woolley, USEC, dtd 03/12/96
#27. Ltr from P.Kirchner, ACNP/SNM, dtd 03/12/96
#28. Ltr from W.J.Powell dtd 03/10/96
#29. Ltr from R.A.Zoon and S.W.Googins, HHS/NIH, dtd 03/12/96
#30. Ltr from L.R.Smith, DuPont, dtd 03/11/96
#31. Ltr from P.J.Merges, New York State Department of Environmental Conservation, dtd 03/12/96
#32. Ltr from R.C.Shinn,Jr., State of New Jersey, dtd 03/07/96
#33. Ltr from P.Gilbert/J.Johnsrud, Sierra Club/CORE, dtd 03/11/96
#34. Ltr from M.L.Bowling, Virginia Power, dtd 03/12/96
#35. Ltr from Sierra Club National Nuclear Waste Task Force dtd 03/12/96
#36. Ltr from R. Grunewald dtd 03/06/96

#37. Ltr from I.M.Garelick, St. Barnabas Medical Center, dtd 03/14/96
#38. Ltr from J.Graham, ANS, dtd 03/07/97

2. 01/29/96 Federal Register Notice - 61 FR 2765; 01/29/96 - Publication of EPA proposed rule-40 CFR 61 - National Emissions Standards for Radionuclide Emissions From Facilities Licensed by the Nuclear Regulatory Commission and Federal Facilities Not Covered by Subpart H

3. 02/15/96 Email from A.M.Schramm to TSHillier re OMB Notice of Action

4. 02/22/96 Ltr from DACool to O.Ilari, OECD NEA

5. 03/20/96 Memo from SHWeiss to JEGlenn re test reactors would not be subject to 10 mrem/y constraint on air emissions

6. 05/10/96 Memo to Multiple Addressees from DLMorrison, Dir.,RES, requesting Office review and concurrence on final rule

7. 03/26/96 Note from CRaddatz to multiple re Draft slides for 2/28 meeting on Constraint

8. Interoffice comments on final rule:

06/12/96	Memo C.G.Jones to M.F.Seber forwarding IMNS comments
06/13/96	Note to CTrottier from PSobel forwarding DWM/NMSS comments
06/21/96	Memo CJPaperiello to DLMorrison - NMSS comments/concurrence
Undated	Draft memo JLieberman to DLMorrison forwarding OE's comments
06/27/96	NRR markup of final rule
06/27/96	ADM markup of final rule
06/27/96	Memo MGMalsch to DLMorrison - OGC review and comments
07/00/96	Draft memo MGMalsch to DLMorrison - OGC review and comments

9. 07/22/96 Memo from JEGlenn to BJShelton - Final rulemaking - Addition of new reporting requirement

10. 08/05/96 SECY-96-172

11. 08/14/96 Email from BShelton to CRaddatz re Final Rule, Pt. 20, Questionable Title

12. 09/18/96 Ltr to E. Michlovich (SBREFA)

13. 10/18/96 SRM from JCHoyle to JMTaylor and JFCordes re SECY 96-172

14.	11/4/96	Note from Phyllis Sobel to multiple re Court opinion on EPA's rescission of Subpart I for power reactors
15.	11/07/96	Note from Phyllis Sobel to multiple re EPA's Federal Register Notice on Subpart I rescission
16.	11/13/96	Email from Phyllis Sobel to multiple re Discussion with Gale Bonanno on NRC's comments on Subpart I FRN
17.	11/14/96	Memo to DLMeyer from CATrottier - Implementation of Commission Action
18.	12/03/96	Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act
19.	12/10/96	Federal Register Notice - 61 FR 65120; 12/10/96 - Publication of final rule

PDR
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Rule 6—Severability (Adopted 11/21/78)
Rule 7—Zone Boundaries (Adopted 6/14/77)
Rule 10—Permits Required (Adopted 6/13/95)
Rule 11—Definition for Regulation II (Adopted 6/13/95)
Rule 12—Application for Permits (Adopted 6/13/95)
Rule 13—Action on Applications for an Authority to Construct (Adopted 6/13/95)
Rule 14—Action on Applications for a Permit to Operate (Adopted 6/13/95)
Rule 15.1—Sampling and Testing Facilities (Adopted 10/12/93)
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Rule 19—Posting of Permits (Adopted 5/23/72)
Rule 20—Transfer of Permit (Adopted 5/23/72)
Rule 23—Exemptions from Permits (Adopted 12/13/94)
Rule 24—Source Recordkeeping, Reporting, and Emission Statements (Adopted 9/15/92)
Rule 26—New Source Review (Adopted 10/22/91)
Rule 26.1—New Source Review—Definitions (Adopted 10/22/91)
Rule 26.2—New Source Review—Requirements (Adopted 10/22/91)
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Rule 26.6—New Source Review—Calculations (Adopted 10/22/91)
Rule 26.8—New Source Review—Permit To Operate (Adopted 10/22/91)
Rule 26.10—New Source Review—PSD (Adopted 10/22/91)
Rule 28—Revocation of Permits (Adopted 7/18/72)
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Rule 30—Permit Renewal (Adopted 5/30/89)
Rule 32—Breakdown Conditions: Emergency Variances, A., B.1., and D. only (Adopted 2/20/79)
Rule 34—Acid Deposition Control (Adopted 3/14/95)
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Rule 42—Permit Fees (Adopted 7/11/95)
Rule 44—Exemption Evaluation Fee (Adopted 1/8/91)
Rule 45—Plan Fees (Adopted 6/19/90)
Rule 45.2—Asbestos Removal Fees (Adopted 8/4/92)
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Rule 54—Sulfur Compounds (Adopted 6/14/94)
Rule 56—Open Fires (Adopted 3/29/94)
Rule 57—Combustion Contaminants-Specific (Adopted 6/14/77)
Rule 60—New Non-Mobile Equipment-Sulfur Dioxide, Nitrogen Oxides, and Particulate Matter (Adopted 7/8/72)
Rule 62.7—Asbestos—Demolition and Renovation (Adopted 6/16/92)
Rule 63—Separation and Combination of Emissions (Adopted 11/21/78)
Rule 64—Sulfur Content of Fuels (Adopted 6/14/94)
Rule 66—Organic Solvents (Adopted 11/24/87)
Rule 67—Vacuum Producing Devices (Adopted 7/5/83)
Rule 68—Carbon Monoxide (Adopted 6/14/77)
Rule 71—Crude Oil and Reactive Organic Compound Liquids (Adopted 12/13/94)
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Rule 71.3—Transfer of Reactive Organic Compound Liquids (Adopted 6/16/92)
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Rule 71.5—Glycol Dehydrators (Adopted 12/13/94)
Rule 72—New Source Performance Standards (NSPS) (Adopted 6/28/94)
Rule 74—Specific Source Standards (Adopted 7/6/76)
Rule 74.1—Abrasive Blasting (Adopted 11/12/91)
Rule 74.2—Architectural Coatings (Adopted 08/11/92)
Rule 74.6—Surface Cleaning and Degreasing (Adopted 5/8/90)
Rule 74.6.1—Cold Cleaning Operations (Adopted 9/12/89)
Rule 74.6.2—Batch Loaded Vapor Degreasing Operations (Adopted 9/12/89)
Rule 74.7—Fugitive Emissions of Reactive Organic Compounds at Petroleum Refineries and Chemical Plants (Adopted 1/10/89)
Rule 74.8—Refinery Vacuum Producing Systems, Waste-water Separators and Process Turnarounds (Adopted 7/5/83)
Rule 74.9—Stationary Internal Combustion Engines (Adopted 12/21/93)
Rule 74.10—Components at Crude Oil Production Facilities and Natural Gas Production and Processing Facilities (Adopted 6/16/92)
Rule 74.11—Natural Gas-Fired Residential Water Heaters-Control of NO_x (Adopted 4/9/85)
Rule 74.12—Surface Coating of Metal Parts and Products (Adopted 12/13/94)
Rule 74.15—Boilers, Steam Generators and Process Heaters (5MM BTUs and greater) (Adopted 11/8/94)
Rule 74.15.1—Boilers, Steam Generators and Process Heaters (1–5MM BTUs) (Adopted 6/13/95)
Rule 74.16—Oil Field Drilling Operations (Adopted 1/8/91)
Rule 74.20—Adhesives and Sealants (Adopted 6/8/93)
Rule 74.23—Stationary Gas Turbines (Adopted 3/14/95)
Rule 74.24—Marine Coating Operations (Adopted 3/8/94)
Rule 74.26—Crude Oil Storage Tank Degassing Operations (Adopted 11/8/94)
Rule 74.27—Gasoline and ROC Liquid Storage Tank Degassing Operations (Adopted 11/8/94)
Rule 74.28—Asphalt Roofing Operations (Adopted 5/10/94)
Rule 74.30—Wood Products Coatings (Adopted 5/17/94)
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Rule 100—Analytical Methods (Adopted 7/18/72)
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Rule 155—Stage 2 Episode Actions (Adopted 9/17/91)
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Rule 158—Source Abatement Plans (Adopted 9/17/91)
Rule 159—Traffic Abatement Procedures (Adopted 9/17/91)
Rule 220—General Conformity (Adopted 5/9/95)

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[FR Doc. 96–1546 Filed 1–26–96; 8:45 am]
BILLING CODE 6560–50–P

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40 CFR Part 61

[FRL–54 :8–2]

National Emissions Standards for Radionuclide Emissions From Facilities Licensed by the Nuclear Regulatory Commission and Federal Facilities Not Covered by Subpart H

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of public hearing.

SUMMARY: The Office of Radiation and Indoor Air, Radiation Protection Division will be holding a public hearing for the notice to reopen the comment period for the proposed rule to rescind 40 CFR 61, subpart I for Nuclear Regulatory Commission (NRC) and Agreement State licensees other than nuclear power reactors; and will also be extending the comment period on that notice for Subpart I.

Due to the government shutdown last month and the unusual circumstances of the extended furlough, EPA's January 9th public hearing has been rescheduled. We are also extending the comment period from January 20th to allow the public additional time to review NRC's proposed constraint level rule which was published in the **Federal Register** on December 13, 1995.

Due to the uncertainty created by the lack of appropriated funds and the Agency's operating under Continuing Resolutions, we are requesting those who plan to attend and participate in the public hearing on February 29th to contact Eleanor Thornton at (202) 233-9773 or Gale Bonanno at (202) 233–9219 so they can be advised of any necessary schedule changes which might occur.

DATES: The hearing will be held on Thursday, February 29, 1996, from 9:00 am to 5:00 pm. The extension for the comment period will allow comments to be received by EPA on or before February 22, 1996.

In addition, pursuant to Section 307(d)(5), the public may submit rebuttal and supplemental information for thirty (30) days after the public hearing. This comment period will end on March 29, 1996.

ADDRESSES: The hearing will take place at the Marriott Hotel, 1999 Jefferson Davis Highway, in Arlington, Virginia (accessed from the Crystal City Metro stop). Comments should be submitted (in duplicate if possible) to: Central Docket Section, Environmental Protection Agency, Attn: Air Docket No. A–92–50, Washington, DC 20460. Docket A–92–50 contains the rulemaking record. The docket is available for public inspection between the hours of 8:00 a.m. and 5:30 p.m., Monday through Friday, in room M1500 of Waterside Mall, 401 M Street SW., Washington, DC, 20460. A reasonable fee may be charged for copying. The fax number is (202) 260–4400.

FOR FURTHER INFORMATION CONTACT: Eleanor Thornton, Center for Federal Guidance and Air Standards, Radiation Protection Division, Office of Radiation and Indoor Air (6602J), Environmental Protection Agency, Washington, DC 20460, (202) 233–9773.

SUPPLEMENTARY INFORMATION: This meeting is open to any member of the public. As noted in the notice reopening the comment period (60 FR 50161, No. 188, September 28, 1995), requests to participate in the public hearing should be made in writing to the Director, Lawrence G. Weinstock, Radiation Protection Division, Office of Radiation and Indoor Air (6602J), Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, by February 15, 1996. Requests may also be faxed to EPA at (202) 233–9629 or 233–9626. Requests to participate in the public hearing should also include an outline of the topics to be addressed, the amount of time requested, and the names of the participants. EPA may also allow testimony to be given at the hearing without prior notice, subject to time restraints and at the discretion of the hearing officer. Three (3) copies of testimony should be submitted at the time of appearance at the hearings.

Dated: January 23, 1996.

Richard D. Wilson,

Acting Assistant Administrator for Air and Radiation.

[FR Doc. 96–1557 Filed 1–26–96; 8:45 am]

BILLING CODE 6560–60–P

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40 CFR Part 131

[WH–FRL–5408–3]

Water Quality Standards for Surface Waters in Arizona

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule and request for comments.

SUMMARY: EPA is proposing water quality standards that would be applicable to waters of the United States in the State of Arizona. The proposed standards address those six aspects of Arizona's water quality standards that EPA, Region 9 disapproved in 1993 and 1994. EPA is taking this action at this time pursuant to a court order to propose such standards by January 31, 1996. The proposed standards would establish standards for waters that are exempt from State-adopted standards due to a State rule related to mining, designate fish consumption as a use for certain waters, and make certain provisions in the State's standards related to "practical quantitation limits" inapplicable for Clean Water Act purposes. In addition, this notice proposes requirements related to implementation of certain narrative criteria in the State's standards, and solicits comment on the policies that EPA, Region 9, intends to use to implement these criteria as they relate to nutrients, chronic toxicity, and the effects of mercury on wildlife.

DATES: EPA will hold a public hearing on its proposed actions on February 29, 1996, in Phoenix, AZ. EPA will consider written comments on the proposed actions received by February 28, 1996, or March 8, 1996.

ADDRESSES: Comments should be addressed to Catherine Kuhlman, Chief, Permits and Compliance Branch, W–5, Water Management Division, EPA, Region 9, 75 Hawthorne St., San Francisco, CA 94105. The public hearing will be held February 29, 1996, from 2 p.m. to 4 p.m. at the Arizona Department of Environmental Quality (ADEQ) Public Meeting Room, South Mall, ADEQ, 3033 North Central Ave., Phoenix, AZ 85012. This action's administrative record is available for review and copying at Water Management Division, EPA, Region 9, 75 Hawthorne St., San Francisco, CA 94105. For access to the docket materials, call (415) 744–1978 for an appointment. In the event of a government shutdown, also call (415) 744–1978 for information. A reasonable fee will be charged for copies.

FOR FURTHER INFORMATION CONTACT: Gary Wolinsky, Permits and Compliance Branch, W–5, Water Management Division, EPA, Region 9, 75 Hawthorne St., San Francisco, CA 94105, telephone: 415–744–1978.

SUPPLEMENTARY INFORMATION:

A. Background

Under section 303 (33 U.S.C. 1313) of the Clean Water Act (CWA), states are required to develop water quality standards for waters of the United States within the State. Section 303(c) provides that a water quality standard shall include a designated use or uses to be made of the water and criteria necessary to protect the uses. States are required to review their water quality standards at least once every three years and, if appropriate, revise or adopt new standards. 33 U.S.C. 1313(c). States are required to submit the results of their triennial review of their water quality standards to EPA. EPA is to approve or disapprove any new or revised standards. Id.

States may include in their standards policies generally affecting the standards' application and implementation. See 40 CFR 131.13. These policies are subject to EPA review and approval. 40 CFR 131.6(f), 40 CFR 131.13.

Section 303(c)(4) (33 U.S.C. 1313(c)(4)) of the CWA authorizes EPA to promulgate water quality standards that supersede disapproved State water quality standards, or in any case where the Administrator determines that a new or revised water quality standard is needed to meet the CWA's requirements.

In September 1993, EPA, Region 9, disapproved portions of Arizona's standards pursuant to section 303(c) of the CWA and 40 CFR 131.21. The portions of Arizona's standards disapproved in September 1993 relate to: The exclusion of mining-related impoundments from water quality standards; the absence of "fish consumption" as a designated use for certain water bodies; the absence of implementation procedures for the State's narrative nutrient standard; the absence of biomonitoring implementation procedures for the State's narrative toxicity criterion; and the inclusion of "practical quantitation limits" in Arizona's standards. In April

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December 21, 1995

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984)
(1)

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Docketing and Services Branch

Subject: Proposed Rule, "Constraint Level for Air Emissions of Radionuclides"

The following comments are provided concerning the subject proposed rule:

1. §20.1101(d) reads in part, ". . . [licensees] shall constrain air emissions of radioactive materials other than radon-222 so that the individual member of the public likely to receive the highest dose will not be expected to receive a dose in excess of 10 mrem/yr TEDE from these emissions."

   "these" should read "the licensee's air" to clarify that the licensee need account only for his own air emissions in determining the dose to an individual member of the public and not other licensees who may be contributing to that dose. This language is consistent with the rationale given in the supplementary information, ". . . to constrain dose to members of the public from air emissions of radioactive materials from a single source to 10 mrem/yr.

2. §20.2203(a)(2)(vi) reads, "the ALARA constraints for air emissions established under §20.1101(c); or"

   §20.2203(a)(2)(vi) should read, ". . . established under §20.1101(d).

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3. Appendix E to 40CFR61 provides methods for determining compliance with the standard the proposed rule is to replace, including "Screening Techniques for Determining Compliance with Environmental Standards," from NCRP Commentary No. 3 and EPA's COMPLY computer code. Does NRC intend to accept any or all of these procedures to demonstrate compliance with the dose constraint?

Sincerely,

Arthur E. Exten
Senior Environmental Analyst

AF 51-2
PDR

Sweetwater Uranium Facility
Kennecott Uranium Company
42 Miles NW of Rawlins
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Kennecott Energy

5 January 1996

Nuclear Regulatory Commission
Attn: Docketing and Services Branch
Washington, D.C. 20555-0001

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984) (2)

Gentlemen:

Subject: Comments on the Proposed Rule: Constraint Level for Air Emissions of Radionuclides

Kennecott Uranium Company is the operator and manager of the Sweetwater Uranium Project, a uranium recovery facility licensed by the Nuclear Regulatory Commission under Source Material License SUA-1350. The Sweetwater Uranium Project is located in the center of the Great Divide Basin in Sweetwater County, Wyoming. This facility is regulated under Subpart I. The following are Kennecott Uranium Company's comments on the Nuclear Regulatory Commission's (NRC's) proposed Constraint Level for Air Emissions of Radionuclides (Federal Register Volume 60, Number 239, Wednesday, December 13, 1995, pages 63984 - 63987):

1. **General**

Kennecott Uranium Company supports the recision of 40 CFR Part 61 Subpart I provided that radon and its decay products are excluded from the calculated effective dose equivalent used to determine compliance under the proposed ten (10) millirem (mrem) total effective dose equivalent (TEDE) **A**s **L**ow **A**s **R**easonably **A**chievable **(ALARA)** dose "constraint level". 40 CFR Part 61 Subpart I states (40 CFR 61.101(b)):

> **"...The unit of effective dose equivalent is the rem. For purposes of this subpart doses caused by radon-222 and its decay products formed after the radon is released from the facility are not included...."**

Kennecott Uranium Company strongly believes that the exclusion for doses due to radon and its decay products, already a part of 40 CFR Part 61 Subpart I, should be carried over into any newly developed constraint level when Subpart I is rescinded and regulatory responsibility is passed on to the Nuclear Regulatory Commission.

The present language of the NRC's proposed constraint level fails to carry over the intent of Subpart I. The proposed constraint level as published by the NRC states:

> **"...shall constrain air emissions of radioactive materials other than radon-222 so that the individual member of the public likely to receive the highest dose will**

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not be expected to receive a dose in excess of 10 mrem/yr TEDE from these emissions."

This language excludes only radon-222 from the dose, not radon-222 **and** its decay products formed after the radon-222 is released from the facility, as does the language in 40 CFR Part 61 Subpart I. Kennecott Uranium Company requests that the language in the NRC's constraint level be changed to explicitly state **" ...radon-222 and its decay products formed after the radon is released from the facility..."** in place of merely **"...radon-222..."**.

Since the NRC's proposed constraint level applies only to emissions from NRC licensed facilities and operations, emissions from unlicensed adjoining operations or unlicensed portions of operations which include an NRC licensed restricted area should be categorically excluded. Emissions from adjoining unlicensed operations can be excluded through the method used to calculate emissions from adjoining NRC licensed operations. This issue is of special concern to uranium recovery licensees whose facilities and restricted areas may adjoin uranium mines with attendant uranium ore stockpiles. Uranium mines and unrefined and unprocessed ore are exempt from NRC regulation and licensing under 10 CFR 40.13(b) which states:

(b) Any person is exempt from the regulations in this part and from the requirements for a license set forth in section 62 of the act to the extent that such person receives, possesses, uses, or transfers unrefined and unprocessed ore, containing source material; provided that, except as authorized in a specific license, such person shall not refine or process such ore.

Uranium ore piles associated with a uranium mine are exempt from NRC licensing, but still could be a source of airborne radionuclides which, depending upon the relative locations of the exempt mine and the NRC licensed facilities and prevailing wind direction could become included in measurements of airborne radionuclides taken for the purposes of assessing the dose from the facility. Kennecott Uranium Company requests that the agency recognize this fact so that only emissions from the NRC licensed facilities or the NRC licensed portions of facilities are used to determine dose to the member of the public likely to receive the highest dose from that facility.

2. **Rationale for the Continued Exclusion of Radon Decay Products**
Concentrations of radon decay products in ambient air are notoriously variable temporally and laterally. A substantial portion of the background total effective dose equivalent (TEDE) dose and most of the internal background TEDE dose is from radon decay products. In fact, at 100% equilibrium between radon-222 and its decay products, 1% of the total dose is from

radon-222 alone, while 99% of the total dose is from the radon daughters. **(Notes to Radon Daughter Dose - Effective Dose Equivalent (EDD-EDE) Table provided by NRC).**

40 CFR Part 61 Subpart I establishes an emission standard of 10 mrem TEDE to any member of the general public at the site boundary, excluding any dose from radon and its decay products formed after the radon is released. It would be extremely difficult to accurately measure any dose from radon decay products which would be within the 10 mrem standard, thus radon decay products should continue to be excluded from any new constraint limit.

The reason that it is extremely difficult to measure a very low dose (under 10 mrem TEDE) from radon decay products is because of the large natural variation in background concentrations of radon progeny both laterally and temporally. Small (under 10 mrem) doses of radon decay products become lost in the background "noise". At the Sweetwater Uranium Project, which is located in Sweetwater County, in the center of the Great Divide Basin in Wyoming background radon concentrations vary widely. The following chart shows the range of background radon-222 concentrations and associated total effective dose equivalents from the decay products assuming a measured equilibrium factor of 0.28 for the radon decay products:

	Background Measured Concentration (pCi/L)	**Dose (Rems-TEDE)**
High:	6.57	0.81
Low:	2.4	0.29

The natural variability of dose and TEDE for this area is 279% or 520 mrems. It is easy to see how a 10 mrem dose due to radon decay products could become lost within this natural variability since the regulatory dose limit is 1.9% of the natural variation.

In addition, requiring licensees to measure radon daughters derived from radon emitted from their facilities would increase environmental monitoring costs and complexities for the licensees without commensurate benefits.

3. Flexibility in Determination of Compliance

The individual licensees should be allowed latitude in the methodology used to determine compliance with the new constraint level. This latitude should be allowed for the following reasons:

3.1 Differing Radionuclide Emissions

Different licensees will emit different types and combinations of radionuclides in

different forms. Iodine-131 emitted from a hospital, for example, will be emitted as a gas while radium-226, thorium-230 and natural uranium potentially blown out of a uranium mill tailings impoundment will probably exist as radionuclides attached to sand and dust sized particles. Natural uranium emissions from a uranium mill dryer will exist as discrete particles of yellowcake. Given the broad range of types of emissions, licensees should be allowed latitude in selecting an appropriate method of determining compliance. The only requirements on the method selected should be that it is suited to the type of emission and scientifically justifiable.

3.2 Variability in Natural Background

The dose limit in 40 CFR Part 61 Subpart I and the level in the NRC's proposed constraint level is 10 mrem Total Effective Dose Equivalent (TEDE). This level is low. Naturally occurring background levels of radionuclides can be high near some sites and also be highly variable from year to year depending on the strength of the prevailing winds and the prevailing wind direction for the given year. The methods used in determining compliance with the NRC's proposed constraint level must be able to account for natural variability in background.

4. Exclusion of Dose from Non-Licensed Sources

Kennecott Uranium Company requests that licensees exclude radionuclides from sources other than the NRC licensed facility, operation and/or restricted area. This problem is discussed in section 1. In the case of a uranium mill in proximity to an operating uranium mine, determination of compliance could be difficult if windblown material from a uranium mine stockpile, which is exempt from NRC licensure, is measured along with the emissions from the NRC licensed mill due to the relative locations of the mill and mine and the prevailing wind directions.

5. Conclusions

Regarding the proposed recision of 40 CFR Part 61 Subpart I, Kennecott Uranium Company believes:

5.1 The subpart should be rescinded and replaced with an NRC constraint limit, provided that the constraint limit continues to exclude the total effective dose from radon and its progeny as does the subpart.

5.2 The total effective dose from radon and its progeny should continue to be excluded because:

5.2.1 Small doses from radon and its progeny are hard to measure.

5.2.2 Small doses from radon and its progeny become lost in the natural variation of background.

5.3 Kennecott Uranium Company believes that emissions from non-licensed neighboring sources should be categorically excluded from inclusion of the dose estimate. In order to accomplish this the licensee's method of computing dose from the NRC licensed portion of his operation should exclude doses from non-licensed sources. This problem could be experienced by a uranium recovery licensee in close proximity to an exempt uranium mining operation with a uranium ore stockpile. Depending on the relationship of the licensed uranium recovery operation and the exempt uranium mine stockpile and the prevailing wind direction particulant radionuclides from the uranium ore stockpile could be included in measurements of emissions from the licensed facility.

Kennecott Uranium Company appreciates the opportunity to comment on this matter. If you have any questions please do not hesitate to contact me.

Sincerely yours,

Oscar Paulson
Facility Supervisor

20B.DEC

cc: M. H. Gibson
Pat Lorello
Bob Green
George Worman
Dave Crouch
Kenneth J. Webber
D. P. (Mike) Svilar
Katie Sweeney
Anthony J. Thompson

AF 31-2
PDR

WYOMING MINING ASSOCIATION

PHONE 635-0331
AREA CODE 307
HITCHING POST INN
P. O. Box 866
Cheyenne, Wyoming
82003

10 January 1996

Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Attn: Docketing and Services Branch

Gentlemen:

Subject: Comments on the Proposed Rule: Constraint Level for Air Emissions of Radionuclides

The Wyoming Mining Association (WMA) is an industry association of mining companies and associates (suppliers, contractors, service companies, etc.) in the State of Wyoming. The WMA's membership includes a number of uranium recovery licensees licensed by the Nuclear Regulatory Commission and also subject to 40 CFR Part 61 Subpart I. The Wyoming Mining Association reviewed a copy of the Nuclear Regulatory Commission's (NRC's) proposed Constraint Level for Air Emissions of Radionuclides (Federal Register Volume 60, Number 239, Wednesday, December 13, 1995, pages 63984 - 63987) and has the following comments:

1. **General**

The WMA supports the recision of 40 CFR Part 61 Subpart I provided that radon and its decay products are excluded from the calculated effective dose equivalent used to determine compliance under the proposed ten (10) millirem (mrem) **Total Effective Dose Equivalent** (TEDE) **As Low As Reasonably Achievable** (ALARA) dose "constraint level". 40 CFR Part 61 Subpart I states (40 CFR 61.101(b)):

> **"...The unit of effective dose equivalent is the rem. For purposes of this subpart doses caused by radon-222 and its decay products formed after the radon is released from the facility are not included...."**

The WMA strongly believes that the exclusion for doses due to radon and its decay products, already a part of 40 CFR Part 61 Subpart I, should be carried over into any newly developed constraint level when Subpart I is rescinded and regulatory responsibility is passed on to the NRC.

The present language of the NRC's proposed constraint level fails to carry over the intent of Subpart I. The proposed constraint level as published by the NRC states:

> **"...shall constrain air emissions of radioactive materials other than radon-222 so that the individual member of the**

> **public likely to receive the highest dose will not be expected to receive a dose in excess of 10 mrem/yr TEDE from these emissions."**

The WMA requests that the language in the NRC's constraint level be consistent with the language currently in 40 CFR Part 61 Subpart I.

Since the NRC's proposed constraint level applies only to emissions from NRC licensed facilities and operations, emissions from unlicensed adjoining operations or unlicensed portions of operations which include an NRC licensed restricted area should be categorically excluded. Emissions from adjoining unlicensed operations can be excluded through the method used to calculate emissions from adjoining NRC licensed operations. This issue is of special concern to uranium recovery licensees whose facilities and restricted areas may adjoin uranium mines with attendant uranium ore stockpiles. Uranium mines and unrefined and unprocessed ore are exempt from NRC regulation and licensing under 10 CFR 40.13(b) which states:

> **(b) Any person is exempt from the regulations in this part and from the requirements for a license set forth in section 62 of the act to the extent that such person receives, possesses, uses, or transfers unrefined and unprocessed ore, containing source material; provided that, except as authorized in a specific license, such person shall not refine or process such ore.**

Uranium ore piles associated with a uranium mine are exempt from NRC licensing, but still could be a source of airborne radionuclides which, depending upon the relative locations of the exempt mine and the NRC licensed mill and prevailing wind direction, could become included in measurements of airborne radionuclides taken for the purposes of assessing the dose from the mill. The WMA requests that the agency recognize this fact and grant the licensees flexibility in the methodology used to determine dose, so that only emissions from the NRC licensed facilities or the NRC licensed portions of facilities are used to determine dose to the member of the public likely to receive the highest dose from that facility.

2. **Flexibility in Determination of Compliance**
   The individual licensees should be allowed flexibility in the methodology used to determine compliance with the new constraint level. This flexibility should be allowed for the following reasons:

2.1.1 Differing Radionuclide Emissions
Different licensees will emit different types and combinations of radionuclides in different forms. Radium-226,thorium-230 and natural uranium potentially blown out of a uranium mill tailings impoundment will probably exist as radionuclides attached to sand and dust sized particles. Natural uranium emissions from a uranium mill dryer will exist as descrete particles of yellowcake. Given the broad range of types of emissions, licensees should be allowed flexibility in selecting an appropriate method of determinng compliance. The only requirements on the method selected should be that it is suited to the type of emission and scientifically justifiable.

2.1.2 Variability in Natural Background
The dose limit in 40 CFR Part 61 Subpart I and the level in the NRC's proposed constraint level is 10 mrem Total Effective Dose Equivalent (TEDE). This level is very low. Naturally occurring background levels of radionuclides can be higher than 10 mrem near some sites and also be highly variable from year to year depending on the strength of the prevailing winds and the prevailing wind direction for the given year.

3. Exclusion of Dose from Non-Licensed Sources
The WMA requests that sufficient flexibility be allowed licensees in determining compliance with the NRC's proposed constraint level so that the licensee can exclude radionuclides from sources other than the NRC licensed facility, operation and/or restricted area. This problem is discussed in section 1. In the case of a uranium mill in proximity to an operating uranium mine, determination of compliance could be difficult if windblown material from a uranium mine stockpile, which is exempt from NRC licensure, is measured along with the emissions from the NRC licensed mill due to the relative locations of the mill and mine and the prevailing wind directions.

4. Conclusions
Regarding the proposed recision of 40 CFR Part 61 Subpart I, the WMA believes:

4.1 The subpart should be rescinded and replaced with an NRC constraint limit, provided that the constraint limit continues to exclude the total effective dose from radon and its progeny as does the subpart.

4.2 The total effective dose from radon and its progeny should continue to be excluded because:

4.2.1 Small doses from radon and its progeny are hard to measure.

4.2.2 Small doses from radon and its progeny become lost in the natural variation of background.

4.3 The Wyoming Mining Association believes that emissions from non-licensed neighboring sources should be categorically excluded from inclusion of the dose estimate. In order to accomplish this the licensee should be given flexibility in the method of computing dose from the NRC licensed portion of his operation so that doses from non-licensed sources are not included. This problem could be experienced by a uranium recovery licensee in close proximity to an exempt uranium mining operation with a uranium ore stockpile. Depending on the relationship of the licensed uranium recovery operation and the exempt uranium mine stockpile and the prevailing wind direction particulant radionuclides from the uranium ore stockpile could be included in measurements of emissions from the licensed facility.

The WMA appreciates the opportunity to comment on this matter. If you have any questions please do not hesitate to contact me.

Sincerely yours,

Marion Loomis

Marion Loomis
Executive Director

27e.DEC

cc: Katie Sweeney, National Mining Association
Anthony J. Thompson, Shaw, Pittman, Potts and Trowbridge

AF 31-2-5
PDR

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984) (4)

DOCKETED
USNRC

'96 JAN 17 A9:19

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

From: John Stephens <stephens@lamar.colostate.edu>
To: TWD2.TWP9(ctr)
Date: 1/16/96 7:42pm
Subject: constraint levels

Mr. Charlene Raddatz,

On the Health Physics BB (radsafe), there has been many criticisms of changing the risk based limit for regulatory concern to 10-15 mrem/yr from the generally accepted 100 mrem/yr. Below are some of the main points:

1. The exposure rate corresponds to 1 micrcR/hr, can not measure this accurately.
2. The cost does not out weigh the benefit, since populations living in regions with several times higher exposure have no significant adverse health effects.

John Stephens

9601220005 1p

AF 31-2
PDR

DOCKETED
USNRC

'96 JAN 22 P1:16

OFFICE OF SECRETARY
DOCKETING & SERVICE
BR

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984) (5)

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF PUBLIC HEALTH

3423 N. MARTIN L. KING JR. BLVD.
P.O. BOX 30195, LANSING, MICHIGAN 48909

James K. Haveman, Jr., Acting Director

January 12, 1996

U.S. Nuclear Regulatory Commission
Attention: Docketing and Services Branch
Washington, D.C. 20555-0001

This is to respond to a Federal Register notice (Vol. 60, No. 239, December 13, 1995) on a proposed rule by the U.S. Nuclear Regulatory Commission (NRC) for a constraint level for air emissions of radionuclides.

Based upon the review of my staff, this department has no objection to the NRC's proposed rule, as described, and is supportive of the overall goal of implementing appropriate regulatory changes to effect the elimination of unnecessary dual regulation.

However, we feel that NRC should be aware of this department's concerns related to the recent associated proposal by the U.S. Environmental Protection Agency (EPA) to rescind 40 CFR Part 61, Subpart I, as it pertains to NRC licensed facilities. The enclosed letter from me to EPA, dated January 11, 1996, describes our concerns.

Should you have any questions concerning this matter, please contact my staff in the Division of Radiological Health, Bureau of Environmental and Occupational Health, at (517) 335-8200.

Cordially,

James K. Haveman, Jr.

Enclosure

Z-25 5/94

4001230268 3pp.

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF PUBLIC HEALTH

3423 N. MARTIN L. KING JR. BLVD.
P.O. BOX 30195, LANSING, MICHIGAN 48909

[redacted]

James K. Haveman, Jr., Acting Director

January 11, 1996

Central Docket Section LE-131
U.S. Environmental Protection Agency
Attention: Air Docket No. A-92-50
Washington, D.C. 20460

This letter is in response to a Federal Register notice (FR Vol. 60, No. 188, September 28, 1995) on the reopening of the comment period on a U.S. Environmental Protection Agency (EPA) proposal to rescind 40 CFR Part 61, Subpart I, as it applies to facilities, other than commercial nuclear power reactors, licensed by the U.S. Nuclear Regulatory Commission (NRC) or NRC Agreement States. Based upon a review by my staff, the following general comments are submitted:

1. This department supports the overall goal of eliminating unnecessary or duplicative federal regulation of air emissions involving radionuclides. However, we note that EPA's current proposal is unclear on its impact on facilities whose air emissions may include naturally-occurring and accelerator-produced radioactive materials (NARM). For those facilities, the recision action by EPA may eliminate potentially necessary controls for NARM emissions that are not considered duplicative and that go beyond the regulatory authority of NRC. In our reading of 40 CFR Part 61, Subpart I, and the associated provisions of the Clean Air Act, as amended, it seems that all radionuclides, including NARM, are covered for those NRC licensed facilities subject to EPA's regulation. In contrast, the regulatory authority of NRC and the applicability of NRC regulations do not extend to NARM. In particular, NRC regulations in 10 CFR Part 20 cannot be assumed to apply to NARM air emissions by NRC licensees. Similarly, NRC cannot be expected to enforce 10 CFR Part 20 requirements as they relate to NARM. Only in NRC Agreement States could the regulatory authority and sufficiency be considered adequately extended to cover NARM emissions.

   Therefore, EPA's proposed recision of 40 CFR Part 61, Subpart I, would not necessarily assure EPA that the public dose limit of 10 millirem per year from air emissions from NRC licensed facilities in non-NRC Agreement States would be met if the air emissions included NARM, for which no controls are available on the basis of NRC regulatory authority. As an example of the potential significance of the NARM issue, our records indicate that over 40% of all NRC licensed facilities in Michigan (a non-NRC Agreement State) are also authorized to possess NARM.

2. If, in consideration of comment #1, above, EPA chose to retain the applicability of 40 CFR 61, Subpart I, to those NRC licensed facilities whose air emissions include NARM, it is not clear to us what enforcement mechanism EPA would use to assure compliance. The enforcement mechanism is especially uncertain in non-NRC Agreement states, like Michigan, where the regulatory authority and resources at the state agency level may be severely limited and/or fragmented.

I recommend that EPA clarify the impact of its proposal as it relates to the control of air emissions involving NARM from NRC licensed facilities and clarify the associated enforcement impact on the various state radiation control programs.

Thank you for the opportunity to provide comment on this issue.

Cordially,

James K. Haveman, Jr.

cc: U.S. NRC ✓

AF 31-2
PDR

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984)

DOCKETED
USNRC

January 24, 1996

(6)

U.S. Nuclear Regulatory Commission
attn. Docketing and Service Branch
Washington, DC 20555 - 0001

'96 JAN 29 P3:35

OFFICE OF SECRETARY
DOCKETING & SERVICE

RE: The E.P.A.'s proposed dose limit of 10 mrem/yr.

It is a mistake to extrapolate empirical equations orders of magnitude from their data sets; as from rems to mrems. It is an error to assume that the origin (zero, zero) is a datum point. Second order phenomena tend to invalidate the predictions of large extrapolations. The second order effect which the fear-mongers ignore is the bodily process of repair of the fatigue-like effects of radiation. Prompt deaths from radiation require a short-time exposure of over 200,000 mrem. Clearly, bodily repair is capable of handling the damage caused by such large doses. Apparently, bodily repair is extremely efficient at low doses. External natural radiation produces a dose of over 125 mrem per year in high altitude areas but less than 90 mrem at sea level. Cancer mortality rates are half as nigh in nigh altitude areas as they are near sea level. Thus, the empirical equation expressing cancer mortality rates as a function of dose reaches a minimum at a dose above 125 mrem per year.

The first amendment to the Constitution pronibits the government from promoting the erroneous belief and fear that an additional dose of 10 mrem/yr of radiation can cause bodily harm. This sort of dose can be received from the gaseous emissions of all stoves, heaters, engines, incinerators, kilns, and furnaces burning carbonaceous materials. Also, from X-rays, air travel, and medical radioisotopes. The courts have sustained this Constitutional prohibition in case after case involving persons who have developed cancers after being exposed to trivial doses of radiation. If any court should accept the notion that 10 mrem/yr can and always does cause bodily harm, the potential costs to America in terms of fear and damage suits are staggering.

The E.P.A.'s proposed dose limit of 10 mrem/yr is alarmist, unreasonable, impractical, and prejudiced. Such unreason is likely to work against the E.P.A. The current budget cutting exercises are driven by the fact that the U.S. government has reached its "credit card limit". It can no longer afford to pay the interest on the national debt. The first government economizing will involve cost-benefit studies. Fear-mongering activities are counter-productive. Over 400,000 people die each year from breathing tobacco smoke.

Sincerely,

Walston Chubb

Walston Chubb
3450 MacArthur Drive
Murrysville, PA 15668

412-327-8592

9601310040 1p

AF31-2-8
PDR

DOCKETED
USNRC

Rodger W. Granlund
133 Old Mill Road
State College, PA 16801
814 865-3459

96 FEB -1 A9:36

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

26 Jan 96

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR68984) (7)

U.S. Nuclear Regulatory Commission
ATTN: Docketing and Services Branch
Washington, DC 20555-0001

Re: RIN 3150-AF31

Dear Sir or Madam:

The following comments are in response to the publication of a notice of proposed rulemaking on constraint levels for air emissions of radionuclides in the Federal Register on 13 Dec 95.

It is a positive step to eliminate the dual regulation of airborne emissions and place it under the NRC with other radioactive material regulations. The elimination of annual reports for the EPA and allowing the use of calculations and measurements other than the cumbersome ones required by the EPA is also an improvement. However, there are some basic flaws in the proposed regulation, as explained below.

The information presented as Supplementary Information is more than adequate to show that this rulemaking and the EPA regulation that it replaces are unnecessary. The EPA study of 367 randomly chosen NRC licensees clearly showed that exposure of the public to airborne releases was insignificant. Even the second study of 43 licensees, selected to be those most likely to have airborne effluents that would produce a significant public dose, showed that effective doses were less than 10 mrem. Instead of using this as a reason to drop further consideration of a regulation, it was used by the EPA to justify a regulation requiring these same licensees to prove that the maximum effective dose to a member of the public did not exceed 10 mrem. This has to be a classic case of an unnecessary regulatory burden. The proposed NRC regulation, under the guise of eliminating dual regulations, merely transfers this unnecessary regulation to the NRC. The licensee will see very little relief, because the NRC will use at least some of the same cumbersome techniques instituted by the EPA to show compliance with the regulations, according to the Draft Regulatory Guide DC-8016.

The proposed regulation essentially revokes a concept of the ALARA principle. The definition of ALARA in 20.1003 is "*ALARA* means making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical...". Thus, ALARA levels are not and should not be a set value, except for identical operations. In the proposed 20.1101(d)

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and 20.2203(b)(1)(iv) it requires that 10 mrem be adopted as an ALARA limit. This precludes an operation by a licensee where the TEDE from airborne releases might exceed 10 mrem but still be ALARA. This seems to prove the position of those who argued against adoption of the ALARA regulations on the grounds that ALARA values would become limits. The NRC stated that this would not happen.

The proposed regulation adds a new definition for constraint in 20.1003 "*Constraint (dose constraint*) means a value above which specified licensee actions are required". The proposed Regulatory Guide DG-8016 state that "A limit is an upper permissible bound..." and "A constraint is a dose value above which specified licensee actions are required". According to the proposed regulation changes the actions to be taken by the licensee are "...promptly take appropriate corrective action to ensure against recurrence." The only difference I can see between a *constraint* and a *limit* is that a notice of violation is not issued the first time a *constraint* value is exceeded. After that it is effectively a *limit*. Thus, in the space of a few years the NRC dose limit for individuals in the general public from airborne releases has gone from 500 mrem/year to 50 mrem/yr (the current limit for all but submersion exposures) to the proposed limit of 10 mrem/yr. This has been accomplished without any indication of harm to the public, even at the 500 mrem/yr level.

The NRC has sufficient authority to require licensees to reduce emissions to ALARA levels, if a licensee does not operate according to the ALARA philosophy. Issuing a notice of violation may be more difficult for an ALARA violation than for a limit, but it can be done if the deviation from ALARA is significant. Thus, I see little need for either the existing EPA regulation or the proposed NRC changes. As a health physicist I want to see that the public is protected from unnecessary and harmful radiation doses. However, there is no evidence that there is a problem which justifies these regulations. Each unnecessary regulation consumes a fraction of the limited resources available for radiation safety and other problems. Regulations addressing problems that do not exist, are not simply a nuisance, they squander resources that could be put to better use on problems that do pose a significant risk to the public.

In summary, I recommend that the EPA regulation of airborne radionuclides be terminated. Regulation of these emissions is more than adequately controlled by the existing NRC regulations and the 10 mrem limit, which is disguised as a constraint, should not be adopted.

Sincerely,

Rodger W. Granlund

Rodger W. Granlund

\RWG\26JAN96

AF31-2-9
PDR

From: Douglas A. Johnson <doug@nucleus.tamu.edu>
To: TWD2.TWP9(ctr)
Date: 12/15/95 11:57am
Subject: Re: 10 mrem annual limit

Charleen

Just to get it off my chest, the 10 has no technical merit, period. NRC has many unreasonable aspects, EPA is clearly irrational. I am sorry conditions exist where you and we, are forced into this. Keep a clear head and when the political climate changes be prepared to return to being simply unreasonable.

Standard disclaimers.
Doug

Douglas A. Johnson
Senior Health Physicist/Laser Safety Officer
Texas A&M University
Office of Radiological Safety
College Station, Texas 77843-3261 phone 409-845-1392 fax 409-845-1348 e-mail:
doug-johnson@tamu.edu

AF31-2-10
PDR

CHEM-NUCLEAR SYSTEMS, INC.
140 Stoneridge Drive • Columbia, South Carolina 29210 • (803) 256-0450

DOCKETED
USNRC

'96 FEB 15 P12:45

February 9, 1996
RA-0063-96

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Docketing and Services Branch

DOCKET NUMBER
PROPOSED RULE PR 20 (60FR63984) (9)

Dear Sir or Madam:

Chem-Nuclear Systems, Inc. appreciates the opportunity to comment on proposed revision to 10 CFR 20 to establish a "constraint dose" of 10 mrem/yr which applies to air emissions. Chem-Nuclear has previously commented on the EPA proposal to rescind 40 CFR part 61, subpart I. CNSI agrees with the EPA proposal and expects that eliminating this dual regulation will be a benefit to the regulated community, the regulatory agencies, and the public. CNSI does not agree with the NRC's proposed rule since the requirement has simply been passed from the EPA to the NRC without an attempt to eliminate the inconsistencies between the two methods of emission control, i.e. a dose limit to a member of the public versus concentration limits in the unrestricted area.

In addition, it must be noted that to achieve the laudatory goal of eliminating dual regulation the EPA has caused the NRC to establish a contradictory position between occupational and public dose control. The current occupational limits require that internal and external doses be controlled consistently, i.e. a mrem is a mrem. The new proposed ALARA rule requires that doses to the public which result from air emissions be controlled more stringently than doses from external sources, e.g. a dose of 90 mrem/yr from external sources would be acceptable as long as the dose from air emissions doesn't exceed 10 mrem/yr.

Further, the NRC has stated to justify a Finding of No Significant Impact that "This action is not expected to have any significant environmental impact because the programs would provide equivalent protection. Actual air emissions are not expected to change"(emphasis added). Thus, this rule will cause licensees additional work and expense to demonstrate that their emissions result in less than 10 mrem/yr in addition to meeting the current requirement of 10 CFR 20.1302(b)(2)(i). In addition, the NRC is expending limited resources to develop guidance for licensees on methods for demonstrating compliance with a rule that will, by the NRC's own admission, have no effect on actual emissions. Simply passing the EPA standard to NRC does not solve the problem of inconsistent regulation. It would be more appropriate for the EPA to recognize that licensees are conscientiously minimizing air emissions and these rules are a waste of valuable resources. The NRC should not change existing requirements.

Sincerely,

CHEM-NUCLEAR SYSTEMS, INC.

, CHP

for
Michael T. Ryan, Ph.D. CHP
Vice President, Regulatory Affairs

9602220015 1p.

AF31-2
PDR

March 1, 1996

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Attn: Docketing and Services Branch

RE: RIN 3150-AF31: Constraint Level for Air Emissions of Radionuclides. Fed Reg 60(239): 63984-63987, 13 Dec 95.

and

Draft Regulatory Guide DG-8016: Constraints for Air Effluents for Licensees other than Power Reactors, Dec. 95.

and

Regulatory Analysis for the NRC Constraint Rule on Radionuclide Air Emissions from NRC and Agreement State Licensees other than Nuclear Power Reactors.

ACNP

American College of Nuclear Physicians

California Chapter

Dorothy Duffy Price
Executive Director

Box 31
Los Altos, CA 94023

TEL (415) 949-1341
FAX (415) 949-1341

Dear Sir/Madam:

The California Chapter of the American College of Nuclear Physicians (ACNP) are pleased to comment on the above documents. Each year, over 10 million nuclear medicine patient procedures are performed in the United States, 20% of which are performed in California.

We have been deeply concerned with EPA's radionuclide NESHAPS since 1989, because of inappropriate dual regulation, poor quality science, incorrect risk estimates, flawed compliance methodology, and huge unwarranted cost. We have estimated compliance at over $100 million for the first year. We have repeatedly expressed our concerns, especially with the tightening up of resources for medicine and for academic research.

We were very grateful for the Simpson Amendment of 1990, in which the EPA Administrator was obliged to make a determination of whether NRC's airborne radionuclide emissions standards for NRC and Agreement State licensees protected the public with an "ample margin of safety". EPA performed two studies to make this determination. Licensees were forced to use a user-unfriendly and scientifically flawed computer program called "COMPLY", which hugely overestimated (by orders of magnitude) radiation dose to the public. In the first study, 367 randomly selected nuclear

materials licensees were expected, without compensation, to develop a data base and use the COMPLY program to ascertain public dose. The highest estimated dose was 8 mrem/yr TEDE, and 98% of the facilities caused less than 1 mrem. This is using highly conservative assumptions, and these estimates are in fact gross overestimates. The EPA limit is 10 mrem/yr TEDE, so all were very comfortably within that limit. EPA's second study involved choosing 43 licensees expected to have the highest emissions. None exceeded the 10 mrem standard, and 75% were under 1 mrem/yr TEDE. Again, these estimates were also gross overestimates of actual airborne emissions. In order to put these doses in perspective, recall that the average American receives about 300 mrem/yr TEDE from natural background, and another 63 mrem/yr TEDE from man-made sources, mainly routine medical exposures. In mountainous areas with high levels of naturally-occurring radionuclides, natural background can be 1.5-2 times the national average; in one town in Colorado it is 3 times higher. Thus, 1 mrem/yr TEDE is only about half of 1% of the difference in background radiation dose between Washington, D.C. and Denver, CO. (Colorado is tied for the third lowest cancer death rate in the United States. The District of Columbia has the highest cancer death rate in the nation.) In addition, we have the whole issue of airplane flight. Passengers and flight crews receive 1 mrem TEDE/1000 miles flown. This is a completely unregulated source of radiation exposure, and rightly so.

However, in an abuse of logic to satisfy an antinuclear pressure group, the EPA administrator determined that NRC's standards provided an ample margin of safety only at present. As it was always possible for NRC to fail to do so in the future, EPA refused to relinquish its role. EPA insisted that NRC change its existing regulations to essentially look like EPA's. After a prolonged negotiation period that produced much more heat than light, NRC published EPA's forced rule change on 13 Dec. 95. The NRC version is far worse than EPA's even though they were meant to be similar.

The nuclear medicine community cannot possibly support NRC's Proposed Rule, its draft regulatory guide, or its economic analysis. Detailed comments will follow to endeavor to make a repeat NRC effort respectable. However, we believe that even a vastly improved NRC document is only the fourth best solution to the problem.

One excellent solution to the problem is for the EPA Administrator to stop being in contempt of the Simpson Amendment. She made the determination that NRC keeps us to a safe standard. She spent a great deal of our money and time accomplishing that. Good. Now the EPA Administrator should withdraw Subpart I completely, as the Simpson Amendment so instructs her. Ms. Browner is at present showing contempt for the law, contempt for President Clinton's Executive Order 12866, and contempt for science. This behavior should not be permitted to continue.

Another excellent solution would be for Congress to understand that this regulatory cat fight is very destructive to the nation, and therefore stop it by amending the Clean Air Act (CAA) to remove radioactive airborne emissions from the CAA's jurisdiction. We would then revert to NRC's present, entirely adequate standards.

Better yet, Congress could go further and end EPA's entire radiation program, reinstating a Federal Radiation Council (FRC) for standard-setting resembling the FRC that existed until a 1970 Executive Order transferred those tasks to the newly-formed EPA. That would permit the establishment of excellent quality, highly respected, uniform radiation standards by the most qualified experts in the United States. This would be an extraordinary improvement over what we have now from both EPA and NRC.

SPECIFIC COMMENTS: THE PROPOSED RULE

1. The CAA referred to uncontrolled airborne emissions beyond the boundary of the licensee's property. Limits for the public were offsite limits. Airborne emissions within the licensee's establishment are completely and adequately covered by NRC's extensive requirements for facility operation. NRC needs to change §20.1101(d) to read, ".....so that the individual member of the public likely to receive the highest offsite dose....".

2. The nuclear power plants were exempted from EPA control when found to be kept to an ample margin of safety by analyzing NRC's calculation of dose at the facility boundary, not inside the power plant. The nuclear power plants did not use the COMPLY code; they chose their own method of calculation.

The nuclear power plants have high enough airborne emissions that they can be measured. Almost all our facilities are so low they cannot be measured, but they can only be calculated. We cannot have two different airborne emissions standards within the same agency. NRC's airborne emission standards, and its "constraint" rule, if we must have one, must apply to everyone, power plants and hospitals alike.

3. This rule should not be an item of compatibility at level 2. We cannot tolerate more restrictive standards on a state-by-state basis. Airborne radionuclides cross state lines, and a national standard is appropriate. Level 2 compatibility simply invites antinuclear groups to lobby for state airborne emissions standards low enough to close down all biomedical research and nuclear medicine in the state. To make nuclear power plant airborne emission levels untouchable (level 1), yet hold materials licensees to a standard 5 times more restrictive than nuclear power plants and also permit antinuclear groups to influence states to make them even more restrictive than that, is absurd. NRC is surely aware that "antinukes" have attacked nuclear medicine and medical research licensees because we are loudly supportive of low level radioactive waste sites. Why is NRC "setting us up"? Why NRC would be irresponsible and malevolent enough to set the stage for such mischief we do not comprehend, but we urge Chairman Jackson and the Commissioners to reconsider, oppose staff and management if necessary, and keep the standard at level 1.

SPECIFIC COMMENTS: THE DRAFT REGULATORY GUIDE

1. The example chosen in Appendix A needs to be changed completely to that of an offsite example. In addition, the example has the wrong volatility fraction (1.0E-3, not 1); the average concentration is missing division by 3, and combination with the rest of the year; the mathematics of a first order rate equation is avoided erroneously; no member of the public stands at an open laboratory door for 24 straight hours; the division of 7.9E-10 by 2.0E-10 is ten times too small; the exposure dose is grossly in error and far too large.

2. NRC has omitted default levels needed so that a large number of licensees will immediately be exempt from more detailed and expensive analyses. They are in 40

CFR Part 61, and belong in NRC's rule as well.

The calculations that led to them should be reviewed and improved upon. These default values are too conservative. ACNP/SNM were repeatedly unable to get EPA's or its contractor's actual calculations under FOIA. There may not be very valid calculations to begin with.

The default quantities in Part 61 would be adequate if medical and research licensees could apply realistic release fractions, based on 60 years of experience, to their annual throughput of radioactive materials. For example, we could use 10^{-6} or less for nonvolatile forms and 10^{-4} for volatile forms. Then, calculations should only be needed for new processes exceeding these values.

3. EPA appreciated that sealed containers, not only sealed sources, do not contribute airborne emissions. Therefore sealed containers were exempt. NRC needs to exempt sealed containers as well. Sterile, pyrogen-free radiopharmaceuticals in sealed vials, for example, were exempted by EPA, as well as radionuclide generator columns.

4. EPA exempted airborne emissions from patients, just as NRC exempts patient's excreta going into sewers. NRC should explicitly state that here.

5. The COMPLY Code is of poor quality, and should not be recommended by NRC. Nevertheless, if used, the COMPLY Code exempts emissions from patients, is only defined for offsite emissions, and requires data for activity possessed per year, not possession limits at any particular time, as stated erroneously by NRC in the draft regulatory guide.

6. The equation in 2.1, p. 4, is incorrect. The equation is written $c = fQ/v$, where Q is defined as the effluent release rate. The rate is irrelevant. The equation would be more accurate as $c = fA/VT$, where A = total activity released in one year and T=1 year. "f" should be redefined as "the fraction of activity released when the wind is blowing toward the receptor of interest". Winds change.

7. The draft Regulatory Guide permits three methods for demonstrating compliance, but omits a very simple method used by many smaller facilities described in EPA 520/1-89-002, a Guide for Determining Compliance with the Clean Air Act Standards for Radionuclide Emissions from NRC-Licensed and Non-DOE Federal Facilities, Revision 2, October, 1989. This should be added.

8. The NRC directed the costliest, most paperwork-intensive possible manner of showing compliance with emissions standards. As EPA has demonstrated that all 22,000 materials licensees are "safe" at present, why do we have to repeat this pointless exercise every year? Why not permit facilities to ignore this unless they significantly alter their activities? New activities could be studied up front and "vetted" for the whole country, such as a new I-131-labeled therapy antibody. Nuclear medicine facilities have been "safe" for 60 years, and it is foolish and expensive to pretend that we need to show how safe we are, over and over again, so that an inspector will have more paper to inspect.

SPECIFIC COMMENTS: THE REGULATORY ANALYSIS

1. The Regulatory Analysis is astounding. It calculates the cost to the regulators, but omits costs to licensees. NRC appears to believe that licensees produce analyses like these for zero dollars. If the average licensee spends 80 hours a year on this, and this is a realistic estimate, at $120/hr (NRC's rate), $\frac{22,000}{2}$ = 11,000 licensees will spend $105,600,000. EPA has shown that none of this is necessary. $100 million is real money, and it is downright careless for NRC to leave it out of its submission to OMB.

2. NRC states that 15 of its FTE's worked for 6 years with EPA on this issue. At NRC's rate of $120/hr x 2000 hrs. x 15 FTE's, we have already paid $3.6 million in User Fees and received a completely unusable package from NRC. Although NRC estimates its costs to complete this regulation, we believe it is not a credible number. How much would NRC have to spend to do a good job?

We recommended that <u>different</u> individuals at NRC redo this regulation. We cannot afford to pay such prices for unusable material.

CONCLUSION

1. We recommend that NRC submit a new Proposed Rule, Draft Regulatory Guide, and Regulatory Analysis, and that it be done promptly by individuals with education, training, and experience in airborne emissions. ACNP and other professional societies would be happy to help NRC further in this effort.

2. Ideally, Administrator Browner will review her obligations under the Simpson Amendment and do the honorable thing. Perhaps Congress could induce her to reevaluate her position.

3. Hopefully Congress will remove radionuclides from the CAA and end this misery. In a perfect world, Congress would end EPA's radiation program entirely, reinstating a Federal Radiation Council using guidance recommended by ACNP and the Society of Nuclear Medicine.

Thank you for your attention and consideration.

Sincerely,

Carol S. Marcus, Ph.D., M.D.
Director, Nuclear Med. Outpt. Clinic
and
Professor of Radiological Sciences,
UCLA
and
President, American College of Nuclear
Physicians, California Chapter

cc: Chairman Shirley Jackson
Commissioner Kenneth Rodgers
Commissioner Greta Dicus
Hugh Thompson, Deputy, EDO
Carol Browner, Administrator, EPA
Senator Alan Simpson
Senator Bob Dole
Representative Newt Gingrich
Troy Hillier, OMB

CSM:sfd

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PDR

NFS

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OFFICE OF SECRETARY
DOCKETING & SERVICE
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Certified Mail
Return Receipt Requested

21G-96-0018
GOV-01-55
ACF-96-029

February 28, 1996

U. S. Nuclear Regulatory Commission
Washington D. C. 20555-0001
ATTN: Docketing and Services Branch

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984) (11)

SUBJECT: **Nuclear Fuel Services, Inc. (NFS') Comments on the Proposed Rule: Constraint Level for Air Emissions of Radionuclides (60 FR 63984, dated 12/13/95)**

Dear Sirs:

Nuclear Fuel Services, Inc., (NFS) respectfully submits the following comments on the *Proposed Rule: Constraint Level for Air Emissions of Radionuclides (60 FR 63984, dated 12/13/95).*

NFS opposes the imposition of a new standard for air emissions of radionuclides for the following reasons:

1. Emission standards already exist in 10 CFR Part 20, Subpart D, for all NRC licensees. The largest licensees, fuel cycle facilities, are also regulated by the even more restrictive standard of 40 CFR 190, Subpart B. These standards have proven effective in adequately protecting the public from excessive exposure to radiation and radioactive material.

2. As stated by the NRC, the proposed rule is "necessary to provide assurance to the Environmental Protection Agency (EPA) that future emissions from NRC licensees will not exceed levels that will provide an ample margin of safety." Due to the same basic reasons, the EPA promulgated the radionuclide emission standards of the Clean Air Act (40 CFR 61, Subpart I) which causes the generation of thousands of dose assessments each year by NRC licensees. These dose assessments show that emissions from licensees are already being controlled adequately to protect the public. There is a no data known to NFS indicating a public safety problem for which the proposed regulation is needed.

3. The constraint level <u>is a standard</u>. Although presented as part of the ALARA provision, the very act of establishing a set action level which requires reporting and corrective action by the licensee in full public view is indistinguishable from a basic regulatory standard.

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4. For most licensees, airborne emissions dominate offsite dose; this new rule would effectively lower the allowable offsite dose limit by a factor of 10. A change of this magnitude should be justified by more scientific evaluation and economic impact studies than are apparent from this rulemaking effort.

5. The assertion that a 10 mrem/yr constraint provides an appropriate level of protection implies that higher levels do not. Since there is no difference in dose received from airborne and direct radiation exposure, one might infer from this action that exposure from direct radiation would seem to be in need of similar constraint. This is not the case. Current standards in 10 CFR 20 limit most licensees to 100 mrem/yr public dose from all sources (except sewer) combined. Thus, the proposed rule begs the question: Is 10 mrem/yr from airborne radioactivity and 90 mrem/yr from direct radiation more acceptable than 90 mrem/yr from airborne and 10 mrem/yr from direct? The answer is no. Licensees should be permitted to demonstrate compliance with the cumulative limit of 100 mrem/yr without regard as to whether the dose resulted from mostly airborne or mostly direct exposure. By accepting this airborne constraint level of 10 mrem/yr, one is, in effect, accepting a general ALARA constraint limit.

NFS applauds the effort of the NRC to transfer the regulation of the Clean Air Act (CAA) standard from the EPA to the NRC. However, there is little benefit if the EPA standard continues in a merely altered form. The NRC should continue to argue that adequate protection is provided by its current regulations and should back this up with data from licensees. The EPA should use the data created under the CAA radionuclide standard, which has been in effect for three calendar years, to show that the public is already adequately protected. No new rule should be promulgated unless the existing data clearly demonstrates that the current NRC rules do not provide an adequate level of safety.

In conclusion, NFS does not believe that the proposed constraint level is necessary. NFS recommends that the NRC rescind this proposal and work with the EPA to demonstrate the adequacy of the current NRC standards so that the EPA may also rescind or modify the CAA standard to match the proven NRC standards.

If you have any questions or need further information, please contact me or Mr. John W. Negy at (423) 743-1784. Please reference our unique document identification number (21G-96-0018) in any correspondence concerning this letter.

Sincerely,
NUCLEAR FUEL SERVICES, INC.

Andrew M. Maxin
Vice President
Safety and Regulatory

JWN/rcy

From: Mack Richard <MRICHARD@wpo.iupui.edu>
To: TWD2.TWP9(ctr)
Date: 3/5/96 11:12am
Subject: Comments on "Constraints for Air Effluents"

There is no question that dual regulation of radionuclide air emissions by the NRC and the EPA is redundant and unnecessary. However, the EPA's insistence that the NRC adopt "constraint" levels for air emissions which will result in an effective dose of 10 mrem is ridiculous for a number of reasons.

By their own admission, the EPA has stated that licensees who adhere to the NRC's current air concentration limits do not expose individuals to greater than 10 mrem. That being the case, what can possibly be gained by adding another "limit" for air emissions (I know the NRC says the constraint level isn't a limit - I'll discuss that later)?

The EPA is apparently taking the approach that if routine, radionuclide emissions don't result in individual effective doses in excess of 10 mrem, then the limit should be set at 10 mrem. That is like saying that automobiles are capable of traveling at 30 mph. There are fewer accidents (risk) if all cars would drive no more than 30 mph; therefore, let's make the national speed limit 30 mph. If an individual exceeds 30 mph, he must report it and describe how he plans to prevent exceeding that limit in the future (perhaps modifying his automobile engine). Obviously, such an idea is preposterous but demonstrates the same logic being employed by the EPA.

There is absolutely no evidence that indicates EPA's arbitrarily low limit of 10 mrem carries any discernible risk. All risk estimates are based upon extrapolation from higher levels which the majority of experts feel is highly questionable in the mrem range. To establish such a low level based upon questionable methodology is unreasonable. The 100 mrem effective dose limit recommendation for the general public has been reiterated in NCRP Report No 116. It is difficult to understand the EPA's reluctance to adopt the recommendations of the
NCRP.

The air concentration which results in an annual, individual exposure of 10 mrem is not measurable. While computer modeling programs (e.g. COMPLY) are available to estimate such low effective doses, there is no way to substantiate their validity. As a result, licensees may simply modify their assumptions to assure they will meet the 10 mrem limit. While this may solve the problem of exceeding the constraint level, why are we going through such calculational gymnastics for 10 mrem!!

The NRC goes to some length to explain that the "constraint level" is not a limit. Based upon my review, it appears that the constraint level is basically a limit, "once removed." What is meant by that is a licensee will be allowed to exceed the constraint level one time. Upon submitting the required report, the licensee will then be required to meet the

constraint level or risk being cited.

The NRC is certainly trying to eliminate dual regulation of radionuclide emissions. For that, they should be commended. On the other hand, the time has come to attempt to educate the EPA regarding their unreasonable
10 mrem limit. If the NRC goes forward with this constraint level, it will simply substantiate the EPA's inappropriate levels. Sometimes, one has to do what is right rather than what is easiest.

The aforementioned comments are my own and do not necessarily represent the opinion of Indiana University.

Mack L. Richard, M.S.
Radiation Safety Officer
I.U. Medical Center

T. P. (Pat) Barton, Ph.D.

Certified Health Physicist

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DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984) (13)

March 5, 1996

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Secretary:

Regarding the proposed change to a 10 millirem constraint level for releases from NRC-licensed facilities other than nuclear power plants.

There is no public health and safety reason for this change; you, your agency, every competent health physicist and I all know this. Just because everybody can probably live with it and won't complain too loudly doesn't mean it isn't a dumb idea.

Inter-agency turf battles don't make for good regulation.

Sincerely,

S P Barton

Pat Barton

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AF51-2/PDR-15

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March 8, 1996

U.S. Nuclear Regulatory Commission
ATTN: Docketing and Services Branch
Washington, D.C. 20555-0001

Dear Sir/Madam:

I am commenting in response to the proposed regulations as published in the December 13, 1995 Fedcral Register on pages 63984-63987 regarding the proposed reporting requirements under Part 20, specifically the constraint of the 10 mrem/year dose limit (TEDE) to members of the general public.

First let me state that I can find no **rational or scientific** reasons for the imposition of these reporting requirements in this proposed regulations other that to keep the NRC and EPA bureaucracies regulating something and justifying their existence. These proposed regulations do **nothing** to improve the health and safety of individual members of the public. The members of the general public **are adequately protected** by the constraints of 20.1301 and its 100 mrem limit. Epidemiological evidence does not support imposition of a 10 mrem limit from air emissions, the general 100 mrem limit for members of the general public, or even the 5000 mrem limit for occupationally exposed individuals. The occupational dose limit is based on probabilities and assumptions which attempt to limit detrimental effects of working with ionizing radiation, to those levels of hazards which may be found in other "safe" occupations. The limit of 100 mrem has built into it 1.) A degree of protection which includes a conservative reduction factor for those members of the general public who choose not to be occupationally exposed to radiation and 2.) Considerations of exposures from multiple sources of radiation. If there is valid scientific evidence to support that the 5000 mrem limit for occupational exposures or the 100 mrem limits are not adequate for purposes of radiation protection, then we should work to find a "safe" level of exposure. If the proposed limit of 10 mrem due to airborne radionuclides is due to some new evidence which is not incorporated into the current regulations of Part 20, then I would suggest that this information be disseminated to licensees' so that appropriate actions can be taken to safeguard the public's health and safety. If this reporting requirement is necessary to protect members of the general public, then I and all health physicists need to review this evidence because we as a group have missed something extremely important in our professional careers.

Licensees' are currently required to limit exposure to members of the general public to less than 100 mrem per year. The Relative Biological Effectiveness of the nuclides to which a member of the general public could likely be exposed to, have already been accounted for in Part 20.1201 and in Appendix B of Part 20, regardless of how the individuals are exposed, whether through external or internal (ingestion or inhalation) pathways. It is currently a requirement that licensees' maintain this limit to less than 100 mrem TEDE per year. Is there now some special concern that exposure via the inhalation pathway is substantially different or more detrimental than other exposure pathways or is this another attempt by the EPA via the NRC to rachet down dose levels further so that we can all feel better that we are "protecting the public"? If this is the case, than of course 10 mrem is "better" than 100 mrem. If however, that this is just another way for the EPA, now through the NRC, to

promulgate regulations which ensure the survival of the agencies, then I suggest that they are doing their jobs extremely well!

The Simpson Amendment to the CAA clearly states that regulations need not be promulgated if existing regulations provide an **adequate margin of safety** to the public. I suggest that NRC come up with some reasonable data to support limiting air emissions to 10 mrem per year, **if in fact the 100 mrem limit is insufficient to protect public health and safety**. It should make no difference whether or not the exposures occur via inhalation, ingestion, or externally, if we are to believe the limits as set forth in Part 20. As stated in NRC's own commentary concerning these proposed regulations, studies show that the vast majority of licensees' are well under the proposed 10 mrem per year limit. I would suggest that if there is a problem with licensees' exceeding a dose limit that this should be addressed during routine licensee inspections when the NRC inspectors are reviewing records for compliance with occupational doses and limits of doses to members of the public. It should be noted that most occupationally exposed personnel receive far less than their allowable radiation dose limit. It also follows that persons not occupationally exposed to ionizing radiation receive far less than their allowable limits. The vast majority of licensees' whose ALARA programs work well enough to keep their emissions below the 10 mrem limit should be evidence enough that new regulations are not needed to solve a non problem. If by the EPA's own admission, **according to their own data**, there does not appear to be a problem with 98% of the licensee's surveyed exceeding even 1 mrem per year, what is the purpose of requiring licensees' to report this or greater than one mrem per year information to the NRC?

In the past I have worked with the "Comply" code developed for the purpose of assessing air emission dose contributions. I found that this code can be a useful tool for a licensee to assess their particular contribution of air emissions to the total dose to which they may expose members of the general public through their operations. In this sense it fits well into a licensee's ALARA program. However, it has not been demonstrated that compliance at the 10 mrem level improves the general public's health. One must also remember that even by the EPA's own estimates, the "Comply" code provides information which is based on conservative assumptions, thus if anything, overestimating the doses it calculates. In fact by limiting doses to members of the public, no matter how small, you may actually be allowing negative health effects to these persons, based on some data which suggests a beneficial or protective effect below 10 rem. Perhaps you should read the Health Physics Society's latest position paper (March 1996, Health Physics Newsletter), "Radiation Risk in Perspective" concerning low doses of radiation.

It also concerns me that these regulations were stayed by the EPA soon after they were originally promulgated. I assume they were stayed due to some concern that they were not necessary or were duplicative with NRC's own regulations. When they miraculously reappeared in 1993(?) none of the people that I contacted within the EPA, NRC, or various state agencies, could explain why the stay was lifted. Is this perhaps a pet project of someone at one of the agencies who refuses to let it die in the face of opposition? Perhaps someone at NRC or EPA could tell me!

In conclusion, I am firmly opposed to any requirement that licensees' demonstrate compliance with the 10 mrem limit for air emissions until EPA/NRC can provide valid data which suggests how this will benefit society and the general public as a whole. If there is scientific evidence which suggests

that the current regulations are not sufficient to protect public health and safety, then I suggest that the NRC inform the public and members of the radiation protection community so that appropriate actions can be taken. The use of pseudo science and bowing to political pressure does no one in society any service in the long run! I would however, support the use of computer codes such as "Comply" to help in assessing any doses to which an individual of the general public might be exposed to as part of a facility's ALARA program, however it should not be mandatory, especially considering the fact the licensee is already charged with maintaining doses less than 100 mrem per year and ALARA.

These opinions are my own and are shared by some of my colleagues. However, they do not represent the official position of the University of Missouri-Columbia.

Sincerely,

Ronald J. Dobey, Jr., CHP
Deputy Radiation Safety Officer

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March 11, 1996

By Federal Express

Docketing and Services Branch
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, Maryland 20852

Re: Constraint Level for Air Emissions of Radionuclides (10 CFR Part 20), 60 Fed. Reg. 63,984 (Dec. 13, 1995)

Dear Sir:

I enclose two sets of comments submitted by Kerr-McGee Chemical Corporation in connection with the above-captioned proposed rule. I would appreciate it if you would include these comments in the rulemaking docket. Please contact me if you have any questions.

Very truly yours,

Richard A. Meserve

Enclosures

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BEFORE THE UNITED STATES
NUCLEAR REGULATORY COMMISSION

Constraint Level for Air Emissions of Radionuclides	)
10 CFR Part 20	)
60 Fed. Reg. 63,984 (Dec. 13, 1995)	)

COMMENTS OF KERR-McGEE CHEMICAL CORPORATION

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Counsel for Kerr-McGee
Chemical Corporation

Date: March 11, 1996

BEFORE THE UNITED STATES
NUCLEAR REGULATORY COMMISSION

Constraint Level for Air Emissions of Radionuclides 10 CFR Part 20 60 Fed. Reg. 63,984 (Dec. 13, 1995)	)

COMMENTS OF KERR-McGEE CHEMICAL CORPORATION

These comments are submitted by Kerr-McGee Chemical Corporation ("Kerr-McGee") concerning the proposed rule to establish a constraint level for air emissions of radionuclides from NRC-licensed facilities other than power reactors. 60 Fed. Reg. 63,984 (Dec. 13, 1995). Kerr-McGee holds licenses from the NRC and the State of Illinois (an Agreement State) for facilities covered by the proposed rule and, as a result, Kerr-McGee is directly affected by the NRC's proposal.

As explained in the preamble to the proposed rule, NRC seeks to promulgate a constraint level for air emissions from certain licensed facilities that would parallel an EPA National Emission Standard for Hazardous Air Pollutants (NESHAPs") that was promulgated under the Clean Air Act. Id. at 63,985-86; see 40 C.F.R. Part 60, Subpart I. The NRC

anticipates that its actions will enable EPA to rescind its regulation.

Kerr-McGee strongly endorses and encourages the efforts by the NRC to eliminate duplicative regulation. However, the NRC has perpetuated an error in EPA's regulations in its proposed rule. Kerr-McGee submits these comments to explain the error and to urge the NRC to correct it before final promulgation. We also urge the NRC to require compatibility by Agreement States with the resulting final rule.

I. The NRC Rule Should Exclude Both Radon-220 And Radon-222.

The EPA NESHAPs for emissions from NRC-licensed facilities state in pertinent part that "[f]or purposes of this subpart doses caused by radon-222 and its decay products formed after the radon is released from the facility are not included." 40 C.F.R. § 61.101(b). The NRC proposed rule is similar in that it would "constrain air emissions of radioactive materials other than radon-222." 60 Fed. Reg. at 63,987 (proposed 10 C.F.R. § 20.1101(d)). Kerr-McGee presumes that the NRC rule, like the EPA rule, would exclude the dose from daughters of radon-222 that are formed after release. Where both the EPA rule and the NRC proposal err, however, is in the failure to exclude radon-220 (thoron) and its daughters from the dose limit.

A. The EPA Erred In Its Treatment of Radon-220.

As it happens, the failure of EPA to exclude both radon-222 and radon-220 was the apparent result of a last-minute scrivener's error in the most recent promulgation of the NESHAPs for radionuclides. EPA first promulgated its NESHAPs for radionuclides in February 1985. The original rule provided in pertinent part:

> Doses due to radon-220, radon-222, and their respective decay products are excluded from these limits.

50 Fed. Reg. 5,190, 5,195 (Feb. 6, 1985) (final rule, 40 C.F.R. § 61.102) (Exhibit 1). Obviously, in this incarnation, both radon and thoron (and daughters) were excluded from the dose standard.

As it happened, the EPA rule was reconsidered by the agency as a result of the decision by the U.S. Court of Appeals for the D.C. Circuit in Natural Resources Defense Council v. EPA, 824 F.2d 1146 (D.C. Cir. 1987); see 54 Fed. Reg. 9,612, 9,614-15 (Mar. 7, 1989). The reason for the reconsideration related to the court's guidance as to how risk should be considered in the NESHAPs rulemaking process. The need for EPA to undertake a new rulemaking did not relate in any fashion to the exclusion of radon and thoron from the dose standard.

In the new rulemaking, EPA did not initially modify the aspect of its previous rule relating to radon and thoron. The proposed rule provided:

> For purposes of this subpart doses caused by radon-220, radon-222, and their decay products formed after their release from the facility are not included.

54 Fed. Reg. 9,612, 9,653 (Mar. 7, 1989) (proposed 40 C.F.R. § 61.101(b)) (Exhibit 2). Thus, like the prior rule, the proposed rule would exempt both radon and thoron from the dose limit.

In the final rule -- the currently effective version -- EPA removed the exclusion for radon-220, while maintaining it for radon-222. 40 C.F.R. § 61.101(b). We are not aware of anything in the rulemaking record, however, that explains this modification of the proposed rule. There is no discussion of this significant change from the proposed rule in the preamble. See 54 Fed. Reg. 51,654 (Dec. 15, 1989). And, documents that were prepared in connection with the rulemaking show that the final rule was intended to exclude both radon-220 and radon-222.

For example, an EPA Background Information Document concerning procedures for demonstrating compliance -- a document that was prepared shortly before final promulgation -- provides that "[t]he standard specifically excludes doses caused by radon-220 or radon-222 and their decay products that are formed after release." EPA, Background Information Document: Procedures Approved for Demonstrating Compliance with 40 CFR Part 61, Subpart I, 1-3 (Oct. 1989) (Exhibit 3); see 54 Fed. Reg. at 51,667 (describing document as providing the "system for implementing this NESHAP"). Similarly, the

COMPLY computer code that provides a means of demonstrating compliance (see 40 C.F.R. § 61.103) does not include either radon-220 or radon-222, thus showing that EPA intended to exclude both. See EPA, User's Guide for the Comply Code, App. E (EPA 520/1-89-003) (Oct. 1989) (Exhibit 4).

It is apparent that EPA intended its rule to exclude both radon-220 and radon-222 (and daughters), but tnat an inadvertent error was introduced in the drafting of the final rule.[1/] The NRC should not perpetuate the error in its rulemaking.

B. The Rationale For Excluding Dose From Radon-222 Applies To Radon-220 As Well.

There is no discussion in the 1989 EPA rulemaking of which we are aware that explains the basis of the exclusion for radon-222. The matter was considered, however, in connection with the original NESHAPS rulemaking in 1985. In the preamble to that final rule, the EPA explained:

> This standard . . . does not apply to radon-220, radon-222, and their respective decay products. Facilities covered by this standard are likely only to have relatively small quantities of the sources of these radionuclides and are expected to take appropriate control action to limit emissions as part of the NRC's ALARA program.

1/ On September 8, 1994, Kerr-McGee presented this information to EPA's Region V in connection with a facility that is affected by the error. Although Region V stated that it would consult with EPA's Office of Radiation Programs on the matter, Region V has not rebutted Kerr-McGee's showing.

50 Fed. Reg. 5,190, 5,192 (Feb. 6, 1985). This rationale provides no foundation for drawing a distinction between radon-220 and radon-222.

The exclusion of both radon and thoron from the dose limit is fully consistent with existing requirements and guidance in other areas. EPA's environmental standards for the uranium fuel cycle exclude the dose from radon and its daughters (without specification of the radon isotopes). 40 C.F.R. § 190.10(a). The counterpart EPA standards for thorium mills explicitly exclude the dose for radon-220, the relevant isotope for such facilities. 40 C.F.R. § 192.41(d); see 10 C.F.R. Part 40, Appendix A, criterion 8 (excluding thoron from dose limit for thorium mills). EPA's guidance to federal agencies on radiation protection standards for members of the public excludes radon doses (without specifying the radon isotope). 59 Fed. Reg. 66,414, 66,427 (Dec. 23, 1994).[2/]

[2/] In connection with its proposed radiological criteria for decommissioning, the NRC staff observed:

> The NRC staff believes that it is not possible to measure or distinguish concentrations of radon which will produce radiation doses of a few mrem TEDE/y above background using current technology. This belief is based on:
>
> (1) Recognition of the ubiquitous nature of radon in the general environment;
>
> (2) Large uncertainties in the models used to project radon concentrations in indoor air based on soil concentrations of precursors; and

(continued...)

* * *

In light of these considerations, the NRC should not perpetuate EPA's error; the proposed rule should exclude both radon-220 and radon-222.

II. The NRC Should Require Strict Agreement State Conformance To The Final Rule.

The NRC states in the preamble to the proposed rule that it is the NRC's intention to allow an Agreement State to choose to adopt a rule that is more restrictive (but no less restrictive) than one approved by the Commission. 60 Fed. Reg. at 63,986. It is Kerr-McGee's view that the better course is to require strict Agreement State compliance with all radiation-related NRC rules, including the final rule arising from this rulemaking.

A requirement for strict compatibility would assure that licensees are confronted with uniform policies throughout the country and thereby would avoid the confusion arising from disparate standards. See 59 Fed. Reg. 37,269, 37, 273 (July 21, 1990) (Draft Statement of Policy for Agreement State Compatibility). We thus urge the NRC to reconsider its

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2/(...continued)

(3) Limitations of existing measurement techniques in distinguishing between elevated radon concentrations and radon attributed to natural sources.

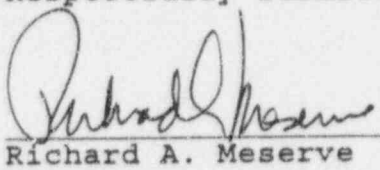
59 Fed. Reg. 43,200, 43,210 (Aug. 22, 1994). These same considerations justify exclusion of all radon isotopes from the criteria at issue here.

position. The NRC should require literal and strict conformance by Agreement States with this final rule.

Conclusion

In light of the foregoing, we urge the NRC to avoid the error in EPA's NESHAPs and to modify its proposed rule so as to exclude both radon-220 and radon-222 (and their daughters formed after release) from the dose limit. The NRC should also require strict compatibility with its final rule by Agreement States.

Respectfully submitted,



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Chemical Corporation

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Part III

Environmental Protection Agency

40 CFR Part 61

National Emission Standards for Hazardous Air Pollutants; Standards for Radionuclides; Final Rules

(v) Estimate of dose equivalent rate to the member of the public at the point of maximum annual air concentration in an unrestricted area where an individual resides or abides.

(vi) A description of the existing control equipment for each emission point.

(A) Primary control device(s) for radionuclide emissions.

(B) Secondary control device(s) for radionuclide emissions.

(C) Estimated control efficiency (percent) for each control device.

(vii) A statement by the owner or operator of the source as to whether he can comply with the standards prescribed in this part within 90 days of the effective date.

All information collection provisions in this subpart are not effective until the Office of Management and Budget approves them.

(c) In addition to the reporting requirements described in paragraphs (a) and (b) of this section, DOE shall submit to EPA an annual report, by June 1, 1986, and annually thereafter, that includes the results of monitoring emissions from points subject to this final rule and associated dose calculations. This information shall be based on data collected during the calendar year immediately preceding the required date of submission of the annual report. This report shall be sent to the Assistant Administrator for Air and Radiation (ANR-443), U.S. Environmental Protection Agency, Washington, D.C. 20460.

§ 61.95 Recordkeeping. [Reserved]

§ 61.96 Waiver of compliance.

To request a waiver, applicants shall provide the information required in § 61.11 and § 61.94 (a) and (b). Waiver requests shall be sent to the Assistant Administrator for Air and Radiation (ANR-443), U.S. Environmental Protection Agency, Washington, D.C. 20460.

§ 61.97 Alternative emission standards.

If a facility may exceed the values established in § 61.92, DOE may apply to EPA for an alternative emission standard. The Administrator will review such applications and will establish an appropriate alternative emission standard that will ensure that no member of the public being exposed to emissions from the facility will receive a continuous exposure of than 100 mrem/y effective dose equivalent and a noncontinuous exposure of more than 500 mrem/y effective dose equivalent from all sources, excluding natural background and medical procedures.

The application shall include the following:

(a) An assessment of the additional effective dose equivalents to the individual receiving maximum exposure from the facility due to all other sources.

(b) The information required in § 61.94.

(c) The effective dose equivalent shall be calculated using the following weighting factors:

Organ	Weighting factor
[Reserved]	[Reserved]

Requests for alternative emission standards shall be sent to the Assistant Administrator for Air and Radiation (ANR-443), U.S. Environmental Protection Agency, 401 M Street, Washington, D.C. 20460.

§ 61.98 Exemption from reporting and testing requirements of 40 CFR 61.10.

Facilities having emissions of radionuclides to air that do not exceed those amounts that cause a dose equivalent of 5 mrem/y to the whole body or 15 mrem/y to the critical organ of any member of the public residing or abiding at the point of maximum annual air concentration in an unrestricted area, are exempt from the reporting requirements of 40 CFR 61.10.

Subpart I—National Emission Standard for Radionuclide Emissions From Facilities Licensed by the Nuclear Regulatory Commission (NRC) and Federal Facilities Not Covered by Subpart H

§ 61.100 Designation of facilities.

The provisions of this subpart apply to NRC-licensed facilities and to facilities owned or operated by any Federal agency other than the Department of Energy that emit radionuclides to air. This subpart does not apply to facilities regulated under 40 CFR Parts 190, 191, or 192, to any low energy accelerator, or to any user of the sealed radiation sources.

§ 61.101 Definitions.

(a) "Agreement State" means any State with which the Atomic Energy Commission or the Nuclear Regulatory Commission has entered into an effective agreement under subsection 274(b) of the Atomic Energy Act of 1954, as amended.

(b) "Dose equivalent" means the product of absorbed dose and appropriate factors to account for differences in biological effectiveness due to the quality of radiation and its distribution in the body. The unit of dose equivalent is the rem.

(c) "NRC-licensed facility" means any facility licensed by the Nuclear Regulatory Commission or any Agreement State to receive title to, receive, possess, use, transfer, or deliver any source, byproduct, or special nuclear material, except facilities regulated by 40 CFR Parts 190, 191, or 192.

(d) "Critical organ" means the most exposed human organ or tissue exclusive of the integumentary system (skin) and the cornea.

(e) "Radionuclide" means any nuclide that emits radiation. (A nuclide is a species of atom characterized by the constitution of its nucleus and hence by the number of protons, the number of neutrons, and the energy content.)

(f) "Whole body" means all organs or tissues exclusive of the integumentary system (skin) and the cornea.

(g) "Effective dose equivalent" means the sum of the products of the dose equivalents to individual organs and tissues and appropriate weighting factors representing the risk relative to that for an equal dose to the whole body.

§ 61.102 Emission standard.

Emissions of radionuclides to air from facilities subject to this subpart shall not exceed those amounts that cause a dose equivalent of 25 mrem/y to the whole body or 75 mrem/y to the critical organ of any member of the public. Doses due to radon-220, radon-222, and their respective decay products are excluded from these limits.

§ 61.103 Emission monitoring and compliance procedures.

To determine compliance with the standard, radionuclide emissions shall be determined and dose equivalent to members of the public shall be calculated using EPA-approved sampling procedures, EPA codes AIRDOS-EPA and RADRISK, or other procedures, including those based on environmental measurements, that EPA has determined to be suitable. In most cases, compliance with this standard will be determined by calculating the dose to members of the public at the point of maximum annual air concentration in an unrestricted area where any member of the public resides or abides.

List of approved procedures: [Reserved]

§ 61.104 Reporting. [Reserved]

§ 61.105 Recordkeeping. [Reserved]

§ 61.106 Exemption from reporting and testing requirements of 40 CFR 61.10.

Facilities in possession of a radionuclide in annual quantities less than the activity shown in Table 1 are exempt from the reporting requirements of 40 CFR 61.10. If a facility possesses more than one radionuclide, and the sum of the annual amount possessed divided by the equivalent activity in Table 1 is summed for all radionuclides in possession, and the sum is less than unity, then the facility is exempt from the reporting requirements of 40 CFR 61.10. For radionuclides not on this list, a facility may apply to the Administrator for an exemption from the reporting requirements.

Table 1 [Reserved]

§ 61.107 Waiver of compliance.

(a) To request a waiver, applicants shall follow the requirements of § 61.10 (b)–(d).

(b) The following provisions also apply:

(1) the owner or operator of any existing source, or any new source to which a standard prescribed under this part is applicable which had an initial startup which preceded the effective date of a standard prescribed under this part shall, within 90 days after the effective date, provide the following information in writing to the Administrator:

(i) Name and address of the owner or operator.

(ii) The location of the source.

(iii) The types of radionuclides emitted by the stationary source and the annual quantity (in Ci/y for the most recent calendar year) of each radionuclide emitted.

(iv) A brief description of the nature, size, design, and method of operation of the stationary source including the operating design capacity of such source. Identify each point of emission for each hazardous pollutant.

(v) Estimate of dose equivalent rate to the member of the public at the point of maximum annual air concentration in an unrestricted area where any member of the public resides or abides.

(vi) A description of the existing control equipment for each emission point.

(A) Primary control device (s) for radionuclide emissions.

(B) Secondary control device(s) for radionuclide emissions.

(C) Estimated control efficiency (percent) for each control device.

(vii) A statement by the owner or operator of the source as to whether he can comply with the standards prescribed in this part within 90 days of the effective date.

§ 61.108 Alternative emission standard.

If a facility may exceed the emission standard established in § 61.102, the operator may apply to EPA for an alternative emission standard. The Administrator will review such applications and will establish an appropriate alternative emission standard that will ensure that no member of the public being exposed to emissions from the facility receives a continuous exposure of more than 100 mrem/y effective dose equivalent and a noncontinuous exposure of more than 500 mrem/y effective dose equivalent from all sources, excluding natural background and medical procedures. The application shall include the following:

(a) An assessment of the additional effective dose equivalents to the member of the public receiving maximum exposure from the facility due to all other sources. The natural radiation background shall be part of this assessment.

(b) The information required in § 61.107.

(c) The effective dose equivalent shall be calculated using the following weighting factors:

Organ	Weighting factor
[Reserved]	[Reserved]

Requests for alternative emission standards shall be sent to the Assistant Administrator for Air and Radiation (ANR-443), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460. This action shall be taken, for existing facilities by April 17, 1985.

Subpart K—National Emission Standard for Radionuclide Emissions From Elemental Phosphorus Plants

§ 61.120 Applicability.

The provisions of this subpart are applicable to owners and operators of calciners and nodulizing kilns at elemental phosphorus plants.

§ 61.121 Definitions.

(a) "Elemental phosphorus plant" means any facility that processes phosphate rock to produce elemental phosphorus using pyrometallurgical techniques.

(b) "Calciner" or "Nodulizing kiln" means a unit in which phosphate rock is heated to high temperatures to remove organic material and/or to convert it to a nodular form. For the purpose of this subpart, calciners and nodulizing kilns are considered to be similar units.

(c) "Curie" is a unit of radioactivity equal to 37 billion nuclear transformations (decays) per second.

§ 61.122 Emission standard.

Emissions of polonium-210 to air from calciners and nodulizing kilns at an elemental phosphorus plant shall not exceed a total of 21 curies in a calendar year.

§ 61.123 Emission testing.

(a) Unless a waiver of emission testing is obtained under § 61.13, each owner or operator of an elemental phosphorus plant shall test emissions from his plant according to the following requirements:

(1) Within 90 days of the effective date of this standard for a source that has an initial start-up date preceding the effective date of this standard; or

(2) Within 90 days of start-up for a source, that has an initial startup after the effective date of the standard.

(b) The Administrator shall be notified at least 30 days prior to an emission test so that EPA may, at its option, observe the test.

(c) An emission test shall be conducted at each operational calciner or nodulizing kiln. If emissions from a calciner or nodulizing kiln are discharged through more than one stack, then an emission test shall be conducted at each stack and the total emission rate from the calciner or kiln shall be the sum of the emission rates from each of the stacks.

(d) Each emission test shall consist of three valid sampling runs. The phosphate rock processing rate during each run shall be recorded. An emission rate in curies per metric ton of phosphate rock processed shall be calculated for each run. The average of all three runs shall apply in computing the emission rate for the test. The annual polonium-210 emission rate from a calciner or nodulizing kiln shall be determined by multiplying the measured polonium-210 emission rate in curies per metric ton of phosphate rock processed by the annual phosphate rock processing rate in metric tons. In determining the annual phosphate rock processing rate, the values used for operating hours and operating capacity shall be values that will maximize the expected processing rate. For determining compliance with the emission standard of Section 61.122 the total annual emission rate is the sum of the annual emission rates for all operating calciners or nodulizing kilns.

federal register

Tuesday
March 7, 1989

Part IV

Environmental Protection Agency

40 CFR Part 61

National Emission Standards for Hazardous Air Pollutants; Regulation of Radionuclides; Proposed Rule and Notice of Public Hearing

(i) It can be shown that the requirements of paragraph § 61.93(b) are impractical for the effluent stream.

(ii) The alternative procedure will not significantly underestimate the emissions.

(iii) The alternative procedure is fully documented.

(iv) The operator has received prior approval from EPA.

§ 61.94 Compliance and reporting.

(a) Compliance with this standard shall be determined by calculating the effective dose equivalent to any member of the public at the offsite point of maximum annual air concentration, where there is a residence, school, business or office. The operators of each facility shall submit an annual report to EPA by June 30 which includes the results of the monitoring and the dose calculations required by § 61.93 for the previous calendar year.

(b) In addition to the requirements of paragraph (a) of the section, an annual report shall include the following information:

(1) The name of the facility.

(2) A list of the radioactive materials used at the facility.

(3) A description of the handling and processing that the radioactive materials undergo at the facility.

(4) A list of the stacks or vents or other points where radioactive materials are released to the atmosphere.

(5) A description of the effluent controls that are used on each stack, vent, or other release point and an estimate of the efficiency of each control device.

(6) Distances from the points of release to the nearest residence, school, business or office and the nearest farms producing vegetables, milk, and meat.

(7) The values used for all other user-supplied input parameters for the computer models (e.g., meteorological data) and the source of these data.

(8) All information required in an application to construct or modify a facility under 61 subpart A, for all construction and modifications which are completed in the calendar year for which the report is prepared, but for which the requirement to apply for approval to construct or modify was waived under § 61.96.

(9) Each report shall be signed and dated by the principal executive officer or public official in charge of the facility and contain the following declaration immediately above the signature line: "I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. See, 18 U.S.C. 1001."

(c) If the facility is not in compliance with the emission limits of § 61.92 in the calendar year covered by the report then the facility must report to the Administrator on a monthly basis the information listed in paragraph (b) of this section, for the preceding month. These reports will be due 30 days following the end of each month. This increased level of reporting will continue until the Administrator has determined that the monthly reports are no longer necessary. In addition to all the information required in paragraph (b) of this section, monthly reports shall also include the following information:

(1) All controls or other changes in operation of the facility that will be or are being installed to bring the facility into compliance.

(2) If the facility is under a judicial or administrative enforcement decree the report will describe the facilities performance under the terms of the decree.

§ 61.95 Recordkeeping requirements.

All facilities must maintain records documenting the source of input parameters including the results of all measurements upon which they are based, the calculations and/or analytical methods used to derive values for input parameters, and the procedure used to determine dose. In addition, the documentation should be sufficient to allow an independent auditor to verify the correctness of the determination made concerning the facility's compliance with the standard. These records must be kept at the site of the facility for at least five years and upon request be made available for inspection by the Administrator, or his authorized representative.

§ 61.96 Applications to construct or modify.

(a) In addition to any activity that is defined as construction under 61 subpart A, any fabrication, erection or installation of a new building or structure within a facility is also defined as new construction for purposes of 40 CFR Part 61, subpart A.

(b) An application for approval under § 61.07 does not need to be filed for any new construction of or modification within an existing facility if the effective dose equivalent, caused by all emissions from the new construction or modification, is less than 1% of the limit prescribed in § 61.92. The effective dose equivalent shall be calculated using the source term derived using Appendix D as input to the dispersion and other computer models described in § 61.93. In addition, based on its last annual report the facility is in compliance with this subpart.

§ 61.97 Exemption from the reporting and testing requirements of 40 CFR 61.10

All facilities designated under this subpart are exempt from the reporting requirements of 40 CFR 61.10.

3. By revising Subpart I to read as follows:

Subpart I—National Emission Standards for Radionuclide Emissions From Facilities Licensed by the Nuclear Regulatory Commission and Federal Facilities Not Covered by Subpart H

Sec.

Subpart I—National Emission Standards for Radionuclide Emissions From Facilities Licensed by the Nuclear Regulatory Commission and Federal Facilities Not Covered by Subpart H

§ 61.100 Applicability.

The provisions of this subpart apply to NRC-licensed facilities and to facilities owned or operated by any Federal agency other than the Department of Energy, except that this subpart does not apply to disposal of facilities under 40 CFR Part 191 subpart B, or to low energy accelerators or to any NRC-licensee that possesses and uses radionuclides only in the form of sealed sources.

§ 61.101 Definitions.

As used in this subpart, all terms not defined here have the meaning given them in the Clean Air Act or subpart A of Part 61. The following terms shall have the following specific meanings:

(a) "Agreement State" means a State with which the Atomic Energy Commission or the Nuclear Regulatory Commission has entered into an effective agreement under subsection 274(b) of the Atomic Energy Act of 1954, as amended.

(b) "Effective dose equivalent" means the sum of the products of absorbed dose and appropriate factors to account

for differences in biological effectiveness due to the quality of radiation and its distribution in the body. The unit of the effective dose equivalent is the rem. For purposes of this subpart doses caused by radon-220, radon-222 and their decay products formed after their release from the facility are not included. The method for calculating effective dose equivalent is outlined in the International Commission on Radiological Protection's Publication No. 26.

(c) "Facility" means all buildings, structures and operations on one contiguous site.

(d) "Federal facility" means any facility owned or operated by any department, commission, agency, office, bureau or other unit of the government of the United States of America except for facilities owned or operated by the Department of Energy.

(e) "NRC-licensed facility" means any facility licensed by the Nuclear Regulatory Commission or any Agreement State to receive title to, receive, possess, use, transfer, or deliver any source, by-product, or special nuclear material.

(f) "Radionuclide" means a type of atom which spontaneously undergoes radioactive decay.

§ 61.102 Standard.

Approach A and Approach B

Emissions of radionuclides to the air from a NRC-licensed or federal facility shall not exceed those amounts that would cause any member of the public to receive an effective dose equivalent of 10 mrem/yr.

Approach C

Emissions of radionuclides to the air from a NRC-licensed or federal facility shall not exceed those amounts that would cause any member of the public to receive an effective dose equivalent of 3 mrem/yr.

Approach D

Emissions of radionuclides to the air from a NRC-licensed or federal facility shall not exceed those amounts that would cause any member of the public to receive an effective dose equivalent of 0.03 mrem/yr.

§ 61.103 Determining compliance.

The only criteria by which compliance with the emission standard in this subpart shall be determined is the doses calculated by either the EPA computer code COMPLY or the alternative requirements of Appendix E. The source terms to be used for input into COMPLY shall be determined through the use of the measurement procedures listed in § 61.107 or the emission factors in Appendix D.

§ 61.104 Reporting requirements.

(a) The owner or operator of a facility must submit an annual report to the EPA by March 30 of the following year.

(1) The report or application must provide the following information:

(i) The name of the facility.

(ii) The name of the person responsible for the operation of the facility and the name of the person preparing the report (if different).

(iii) The location of the facility, including suite and/or building number, street, city, county, state, and zip code.

(iv) The mailing address of the facility, if different from item (iii).

(v) A list of the radioactive materials used at the facility.

(vi) A description of the handling and processing that the radioactive materials undergo at the facility.

(vii) A list of the stacks or vents or other points where radioactive materials are released to the atmosphere.

(viii) A description of the effluent controls that are used on each stack, vent, or other release point and an estimate of the efficiency of each device.

(ix) Distances from the point of release to the nearest residence, school, business or office and the nearest farms producing vegetables, milk, and meat.

(x) The effective dose equivalent calculated using the compliance procedures in § 61.103.

(xi) The physical form and quantity of each radionuclide emitted from each stack, vent or other release point, and the method(s) by which these quantities were determined.

(xii) The volumetric flow, diameter, effluent temperature, and release height for each stack, vent or other release point where radioactive materials are emitted, the method(s) by which these were determined.

(xiii) The height and width of each building from which radionuclides are emitted.

(xiv) The values used for all other user-supplied input parameters (e.g., meteorological data) and the source of these data.

(xv) All information required in an application to construct or modify a facility under 61 subpart A, for all construction and modifications which were completed in the relevant calendar year but for which the requirement to apply for approval to construct or modify was waived under § 61.106.

(xvi) Each report shall be signed and dated by the principal executive officer or public official in charge of the facility and contain the following declaration immediately above the signature line:

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. See, 18 U.S.C. 1001.

(b) Facilities emitting radionuclides in an amount that would cause less than 10% of the dose listed in § 61.102, as determined by the compliance procedures from § 61.103, are exempt from the reporting requirements of § 61.104. Facilities shall annually make a new determination whether they are exempt from reporting.

(c) If the facility is not in compliance with the emission limits of § 61.102 in the calendar year covered by the report then the facility must report to the Administrator on a monthly basis the information listed in paragraph (a) of this section, for the preceding month. These reports will be due 30 days following the end of each month. This increased level of reporting will continue until the Administrator has determined that the monthly reports are no longer necessary. In addition to all the information required in paragraph (a) of this section, monthly reports shall also include the following information:

(1) All controls or other changes in operation of the facility that will be or are being installed to bring the facility into compliance.

(2) If the facility is under a judicial or administrative enforcement decree the report will describe the facilities performance under the terms of the decree.

§ 61.105 Recordkeeping requirements.

The owner or operator of any facility must maintain records documenting the source of input parameters including the results of all measurements upon which they are based, the calculations and/or analytical methods used to derive values for input parameters, and the procedure used to determine compliance. In addition, the documentation should be sufficient to allow an independent auditor to verify the correctness of the determination made concerning the facility's compliance with the standard, and, if claimed, qualification for exemption from reporting. These records must be kept at the site of the facility for at least five years and upon request be made available for inspection by the Administrator, or his authorized representative.

§ 61.106 Applications to construct or modify.

(a) In addition to any activity that is defined as construction under 61 subpart A, any fabrication, erection or installation of a new building or structure within a facility is also defined as new construction for purposes of 40 CFR Part 61, subpart A.

(b) An application for approval under § 61.07 does not need to be filed for any new construction of or modification within an existing facility if one of the following conditions is met:

(1) The effective dose equivalent calculated by using methods described in § 61.103, that is caused by all emissions from the facility including the proposed new construction or modification, is less than 10% of the limit prescribed in § 61.102.

(2) The effective dose equivalent calculated by using methods described in § 61.103, that is caused by all emissions from the new construction or modification, is less than 1% of the limit prescribed in § 61.102.

§ 61.107 Emission determination.

(a) Facility owners or operators may, in lieu of monitoring, estimate radionuclide emissions in accordance with Appendix D.

(b) Radionuclide emission rates from point sources (stacks or vents) shall be measured in accordance with the following requirements:

(1) Effluent flow rate measurements shall be made using the following methods:

(i) Reference Method 2 of Appendix A to Part 60 shall be used to determine velocity and volumetric flow rates for stacks and large vents.

(ii) Reference Method 2A of Appendix A to Part 60 shall be used to measure flow rates through pipes and small vents.

(2) Radionuclides shall be extracted, collected and measured using the following methods:

(i) Reference Method 1 of Appendix A to Part 60 shall be used to select sampling sites.

(ii) Representative samples of an effluent stream shall be withdrawn continuously for the sampling site following the guidance presented in ANSI–N13.1 "Guide to Sampling Airborne Materials in Nuclear Facilities" (including the guidance presented in Appendix A of ANSI–N13.1), as specified in paragraph § 61.18. Samples shall be collected continuously whenever there is potential for radionuclides to be emitted. The requirements for continuous sampling are applicable to batch processes when the unit is in operation. Periodic sampling (grab samples) may be used only with EPA's prior approval. Such approval may be granted in cases where continuous sampling is not practical and radionuclide emission rates are relatively constant.

(iii) Radionuclides shall be collected and measured using procedures based on the principles of measurement described in Appendix B, Method 114. Use of methods based on principles of measurement different from those described in Appendix B, Method 114 must have prior approval from the Administrator. EPA reserves the right to approve of measurement procedures.

(iv) A quality assurance program shall be conducted that meets the performance requirements described in Appendix B, Method 114.

(3) When it is impractical to sample an effluent stream at an existing source in accordance with the site selection and sample extraction requirements of paragraphs § 61.107(b)(2), the facility operator may use alternative site selection and sample extraction procedures provided that:

(i) It can be shown that the requirements of paragraphs § 61.107(b)(2) are impractical for the effluent stream.

(ii) The alternative procedure will not significantly underestimate the emissions.

(iii) The alternative procedure is fully documented.

(iv) The operator has received prior approval from EPA.

§ 61.108 Exemption from the Reporting and Testing Requirements of 40 CFR 61.10

All facilities designated under this subpart are exempt from the reporting requirements of 40 CFR 61.10.

4. By revising subpart K to read as follows:

Subpart K—National Emission Standards for Radionuclide Emissions From Elemental Phosphorus Plants

Sec.

Subpart K—National Emission Standards for Radionuclide Emissions From Elemental Phosphorus Plants

§ 61.120 Applicability.

The provisions of this subpart are applicable to owners and operators of calciners and nodulizing kilns at elemental phosphorus plants.

§ 61.121 Definitions.

(a) "Elemental phosphorus plant" or "plant" means any facility that processes phosphate rock to produce elemental phosphorus. A plant includes all buildings, structures, operations, calciners and nodulizing kilns on one contiguous site.

(b) "Calciner" or "Nodulizing kiln" means a unit in which phosphate rock is heated to high temperatures to remove organic material and/or to convert it to a modular form. For the purpose of this subpart, calciners and nodulizing kilns are considered to be similar units.

(c) "Operator" means any person who owns, operates or controls elemental phosphorous plant.

§ 61.122 Emission standard.

Approach A and B

Emissions of polonium-210 to air from all calciners and nodulizing kilns at an elemental phosphorus plant shall not exceed a total of 10 curies a year.

Approach C

Emissions of polonium-210 to air from all calciners and nodulizing kilns at an elemental phosphorus plant shall not exceed a total of 0.6 curies a year.

Approach D

Emissions of polonium-210 to air from all calciners and nodulizing kilns at an elemental phosphorus plant shall not exceed a total of 0.006 curies a year.

§ 61.123 Emission testing.

(a) Each owner or operator of an elemental phosphorus plant shall test emissions from the plant according to the following requirements:

(1) Within 90 days of the effective date of this standard for a plant that has an initial start-up date preceding the effective date of this standard; or

(2) Within 90 days of start-up for a plant, that has an initial startup after the effective date of the standard.

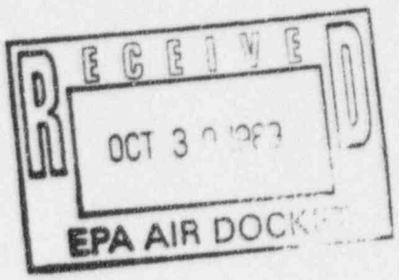
(b) The Administrator shall be notified at least 30 days prior to an emission test so that EPA may, at its option, observe the test.

(c) An emission test shall be conducted at each operational calciner or nodulizing kiln. If emissions from a calciner or nodulizing kiln are discharged through more than one stack, then an emission test shall be conducted at each stack and the total emission rate from the calciner or kiln shall be the sum of the emission rates from each of the stacks.

A-17-11
XIII-B-51

40 CFR Part 61
National Emission Standards
for Hazardous Air Pollutants

EPA 520/1-89-001



Background Information Document:

Procedures Approved for Demonstrating Compliance with 40 CFR Part 61, Subpart I

Office of Radiation Programs
U.S. Environmental Protection Agency
Washington, DC

October 1989

applies to an estimated 6,000 government, academic, medical, and industrial facilities.

1.2.2 The Standard

The NESHAP limits annual radionuclide emissions to the atmosphere from these facilities to such quantities that will not result in any member of the public receiving an effective dose equivalent in excess of 10 millirem per year (mrem/yr). Further, not more than 3 mrem/yr effective dose equivalent may be caused by isotopes of iodine. The standard specifically excludes doses caused by radon-220 or radon-222 and their decay products that are formed after release.

Facilities covered by the NESHAP are also subject to the reporting and approval requirements of 40 CFR Part 61, Subpart I, Sections 61.104(a) and 61.106(a) of Part 61. However, Sections 61.104(b) and 61.106(b) of Subpart I exempt from these requirements any facility that, using the specified procedures, demonstrates that its total emissions do not cause any member of the public to receive a dose greater than 10 percent of the limits of the standard. Further, the approval requirements are waived if, again using the specified procedures, the emissions from a newly constructed or modified facility will not cause any member of the public to receive a dose in excess of 1 percent of the standard.

1.2.3 Demonstrating Compliance

The standard limits doses to the most exposed member of the public. Dose is a complicated function of the quantity of each radionuclide emitted; the physical configuration of the facility releasing the material; the dispersion, transport, and build-up

EPA 520/1-89-001

USER'S GUIDE FOR THE COMPLY CODE

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Radiation Programs
401 M Street, S.W.
Washington, DC 20460

October 1989

APPENDIX E - LIST OF NUCLIDES IN COMPLY

Ac-225	Bi-207
Ac-227	Bi-210
Ac-228	Bi-212
Ag-106	Bi-213
Ag-106m	Bi-214
Ag-108m	Bk-249
Ag-110m	Bk-250
Ag-111	Br-77
Al-26	Br-80
Am-241	Br-80m
Am-242	Br-82
Am-242m	Br-83
Am-243	Br-84
Am-244	C-11
Am-245	C-14
Am-246	Ca-41
Ar-37	Ca-45
Ar-41	Ca-47
As-72	Cd-109
As-73	Cd-113
As-74	Cd-113m
As-76	Cd-115
As-77	Cd-115m
At-211	Cd-117
Au-193	Cd-117m
Au-194	Ce-139
Au-195	Ce-141
Au-198	Ce-143
Au-199	Ce-144
Ba-131	Cf-248
Ba-133	Cf-249
Ba-133m	Cf-250
Ba-135m	Cf-251
Ba-139	Cf-252
Ba-140	Cf-253
Ba-141	Cf-254
Ba-142	Cl-36
Be-7	Cl-38
Be-10	Cm-242
Bi-206	Cm-243

Cm-244
Cm-245
Cm-246
Cm-247
Cm-248

Cm-249
Cm-250
Co-56
Co-57
Co-58

Co-58m
Co-60
Co-60m
Co-61
Cr-49

Cr-51
Cs-129
Cs-131
Cs-132
Cs-134

Cs-134m
Cs-135
Cs-136
Cs-137
Cs-138

Cu-61
Cu-64
Cu-67
Dy-157
Dy-165

Dy-166
Er-169
Er-171
Es-253
Es-254

Es-254m
Eu-152
Eu-152m
Eu-154
Eu-155

Eu-156
F-18
Fe-52
Fe-55
Fe-59

Fm-254
Fm-255
Fr-223
Ga-66
Ga-67

Ga-68
Ga-72
Gd-152
Gd-153
Gd-159

Ge-68
Ge-71
Ge-77
H-3
Hf-181

Hg-193m
Hg-197
Hg-197m
Hg-203
Ho-166

Ho-166m
I-123
I-124
I-125
I-126

I-128
I-129
I-130
I-131
I-132

I-133
I-134
I-135
In-111
In-113m

APPENDIX E - LIST OF NUCLIDES IN COMPLY

In-114m	Nb-95
In-115	Nb-95m
In-115m	Nb-96
In-116m	Nb-97
In-117	Nd-147
In-117m	Nd-149
Ir-190	Ni-56
Ir-192	Ni-57
Ir-194	Ni-59
Ir-194m	Ni-63
K-40	Ni-65
K-42	Np-235
K-43	Np-237
K-44	Np-238
Kr-79	Np-239
Kr-81	Np-240
Kr-83m	Np-240m
Kr-85	Os-185
Kr-85m	Os-191m
Kr-87	Os-191
Kr-88	Os-193
La-140	P-32
La-141	P-33
La-142	Pa-230
Lu-177	Pa-231
Lu-177m	Pa-233
Mg-28	Pa-234
Mn-52	Pb-203
Mn-52m	Pb-205
Mn-53	Pb-209
Mn-54	Pb-210
Mn-56	Pb-211
Mo-93	Pb-212
Mo-99	Pb-214
Mo-101	Pd-103
Na-22	Pd-107
Na-24	Pd-109
Nb-90	Pm-143
Nb-93m	Pm-144
Nb-94	Pm-145

Pm-146	Re-184m
Pm-147	Re-186
Pm-148	Re-187
Pm-148m	Re-188
Pm-149	Rh-103m
Pm-151	Rh-105
Po-210	Ru-97
Pr-142	Ru-103
Pr-143	Ru-105
Pr-144	Ru-106
Pt-191	S-35
Pt-193	Sb-117
Pt-193m	Sb-122
Pt-195m	Sb-124
Pt-197	Sb-125
Pt-197m	Sb-126
Pu-236	Sb-126m
Pu-237	Sb-127
Pu-238	Sb-129
Pu-239	Sc-44
Pu-240	Sc-46
Pu-241	Sc-47
Pu-242	Sc-48
Pu-243	Sc-49
Pu-244	Se-73
Pu-245	Se-75
Pu-246	Se-79
Ra-223	Si-31
Ra-224	Si-32
Ra-225	Sm-147
Ra-226	Sm-151
Ra-228	Sm-153
Rb-81	Sn-113
Rb-83	Sn-117m
Rb-84	Sn-119m
Rb-86	Sn-123
Rb-87	Sn-125
Rb-88	Sn-126
Rb-89	Sr-82
Re-184	Sr-85

APPENDIX E - LIST OF NUCLIDES IN COMPLY

Sr-85m	Th-232
Sr-87m	Th-234
Sr-89	Ti-44
Sr-90	Ti-45
Sr-91	Tl-200
Sr-92	Tl-201
Ta-182	Tl-202
Tb-157	Tl-204
Tb-160	Tm-170
Tc-95	Tm-171
Tc-95m	U-230
Tc-96	U-231
Tc-96m	U-232
Tc-97	U-233
Tc-97m	U-234
Tc-98	U-235
Tc-99	U-236
Tc-99m	U-237
Tc-101	U-238
Te-121	U-239
Te-121m	U-240
Te-123	V-48
Te-123m	V-49
Te-125m	W-181
Te-127	W-185
Te-127m	W-187
Te-129	W-188
Te-129m	Xe-122
Te-131	Xe-123
Te-131m	Xe-125
Te-132	Xe-127
Te-133	Xe-129m
Te-133m	Xe-131m
Te-134	Xe-133
Th-226	Xe-133m
Th-227	Xe-135
Th-228	Xe-135m
Th-229	Xe-138
Th-230	Y-86
Th-231	Y-87

APPENDIX E - LIST OF NUCLIDES IN COMPLY

Y-88	Zn-65
Y-90	Zn-69
Y-90m	Zn-69m
Y-91	Zr-86
Y-91m	Zr-88
Y-92	Zr-89
Y-93	Zr-93
Yb-169	Zr-95
Yb-175	Zr-97
Zn-62	

AF31-2
PDR

DOCKETED

NVIRONMENTAL COALITION ON NUCLEAR POWER
3 Orlando Avenue, State College, PA 16803

Director: Judith H. Johnsrud, Ph.D.
Telephone/FAX: 814-237-3900

March 6, 1996

'96 MAR 13 A7:59

Mr. John C. Hoyle
Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

RE: 60 FR 63984
Constraint Level for Air Emissions
of Radionuclides

ATTN: Docketing and Services Branch

FAX: 301-415-1672

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984) (16)

Dear Secretary Hoyle:

The following comments on 60 FR 63984, NRC's Proposed Rule on Constraint Level for Air Emissions of Radionuclides, are submitted by the Environmental Coalition on Nuclear Power (ECNP), a not-for-profit public-interest Pennsylvania-based citizens' organization, founded in 1970. ECNP has participated in numerous NRC reactor license proceedings, other NRC regulatory matters, and EPA's prior NESHAPS proceedings.

With Sierra Club and Nuclear Information and Resource Service (NIRS), ECNP has challenged EPa's rescission of its NESHAPS standards-setting authority for radionuclides under the Clean Air Act. The ALARA constraint rule is proposed by the Commission to respond to EPA's reluctance to relinquish its NESHAPS authority to NRC for all non-reactor NRC and Agreement State licensees.

The EPA air emission standard was promulgated on October 31, 1989, 40 CFR 61, Subpart I, to establish a 10 millirem per year Effective Dose Equivalent (EDE) dose limit for members of the public. Its effectiveness was stayed; when the stay expired, the standard was implemented for non-reactor NRC and Agreement State licensees. Now, however, EPA staff's proposed rescission indicates that the Administrator may be satisfied that both "acceptable risk" and "ample margin of safety" will be provided in the future by NRC. This conclusion rests on promulgation of this 10 mrem/yr TEDE ALARA constraint level proposed by NRC.

Position on the Proposed Rule and Recommendation of the Environmental Coalition on Nuclear Power:

ECNP does not believe that the ALARA constraint level, as it is described by the NRC staff in the Proposed Rule, will in practice provide adequate assurance that an ample margin of safety will in actuality be consistently met by Agreement State and NRClicensees in the future. *We therefore oppose the ALARA constraint level as it has been proposed. ECNP requests, and urges, the NRC to withdraw this proposal and to refuse to accept EPA's offer and effort to transfer its Clean Air Act statutory responsibility to the NRC for reasons discussed in the comments that follow.*

Request of the Environmental Coalition on Nuclear Power for Extension of the Comment Period:

ECNP also respectfully requests that the NRC extend the public comment period for this 60 FR 63984 constraint level rule for an additional sixty days. We ask for this extension for several reasons.

(1) The shutdown of Federal agencies in December and January delayed information dissemination of this proposal. EPA's hearing on its draft

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rescission for non-reactor NRC and Agreement State licensees was also postponed and took place only on February 29.

(2) We are finding that scarcely anyone we have been able to contact who is living near non-reactor NRC- or Agreement State-licensed facilities or proposed sites for nuclear facilities, potentially including low-level waste treatment and disposal sites, had been aware of the constraint level proposal or its connection with the EPA's NESHAPS standards-setting authority for radionuclide air emissions under the Clean Air Act and proposed rescission -- or the significance of these related matters to air emissions in the vicinity of their residences. It is only reasonable for the NRC to afford such affected persons full opportunity to comment on this proposed rule, and on its relationship to an EPA finding of ample margin of safety and health risks that are or are not acceptable to them, since they are potentially the most exposed populations.

(3) Because the ALARA constraint level rule is designed to alleviate EPA's reluctance to give up its responsibility and is central to that decision, members of the public who live and work in the vicinity of quite literally thousands of nuclear facility sites will be affected by both this rule and EPA's NESHAPS rescission decision; the EPA proceedings with respect to NESHAPS have now gone on for more than a decade; they are extraordinarily intricate -- Byzantine -- in their complexities; and responses to this NRC proposal perforce require affected citizens to dig back through a maze and mass of background materials in order properly to evaluate and comment on this ALARA constraint level rule and how it will affect their health and safety and, with respect to the NRC's recent incorporation of its economic determination of the revised costs to licensees for avoidance of person-rem dose (NUREG/BR-0058, Rev. 2, dated November 1995, but not widely available to members of the public).

Comments of the Environmental Coalition on Nuclear Power on 60 FR 63984:

1. Accompanying this letter and the requests it contains (and rather than completely rewriting our recent lengthy comments on these topics), *ECNP submits as our comments on 60 FR 63984 for the NRC's record in this proceeding our comments on EPA's NESHAPS rescission for non-reactor NRC and Agreement State licensees.* * We particularly draw NRC staff's attention to, and *we recommend that the staff absorb and adopt, both our critiques and recommendations*:

(a) ECNP's February 17, 1996, comments, EPA Air Docket No. A-92-50, especially pp. 8 through 14;

(b) Summary of ECNP's oral comments at the February 29, 1996, EPA hearing on EPA's proposed rescission, same Air Docket, at pp. 1-2;

(c) Letter to Mr. Weinstock, et al., March 1, 1996, ECNP Responses to EPA Staff Question on ECNP Proposals and Supplemental Rebuttal Comments, same EPA Air Docket, pp. 1-4.

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* The three sets of ECNP comments to EPA total nearly 30 pages and are being placed in the U.S. mail, first class, on March 12, 1996, with these comments to NRC on its ALARA Constraint Level Proposed Rule. The latter are being faxed to the Secretary of the Commission today, March 12, 1996.

2. ECNP recommends that any Memorandum of Understanding between EPA and NRC, or any other agreements between these agencies, with respect to EPA's rescission of NESHAPS air emissions standards-setting authority for radionuclides and transfer to NRC include NRC's formal and binding adoption of the proposals we suggest. This course of action is recommended in part as a good faith demonstration by the Commission of its earenst intent to tighten and improve its regulatory authority over all licensees, the lack of which was more than amply described in the recent (March 4, 1996) Time magazine special investigation, "Blowing the Whistle on Nuclear Safety." Nothing could go further to restore public confidence in the NRC than the Commission's replacement of its use of mere regulatory "guidance" with promulgation and rigorous enforcement (no exceptions, exemptions, or waivers) of the mandatory release and dose limit that we suggest: the design basis level of 5 millirem per year to be the maximum dose, TEDE, to any member of the public from the routine operations of any NRC or Agreement State nuclear facility licensee.

3. Our fundamental concerns about, and disagreement with, NRC's proposed ALARA constraint level are:

(a) The constraint level is only a guidance limit, as is stated in the NRC Draft Revised Regulatory Guide 8.37. It is not a regulatory rule promulgated in accordance with the Federal Administrative Procedure Act of 1946 that is mandatory, binding upon licensees, or enforceable.

(b) The constraint level is intended by NRC, according to the staff document, to supplement NRC's ALARA guidance program, which is also not a madated regulation that is enforceable.

(c) The Commission may chose to issue a violation and penalize a licensee for failing to meet ALARA or the constraint level, but it is not required to do so.

(d) The air emissions are self-reported by licensees. With due regard to them and to NRC and Agreement States, not all of NRC's and Agreement States' licensees, nor the NRC itself or all Agreement States, have perfect records of honesty and openness. It may be in the economic interests of a licensee to provide less than complete data to its regulator(s).

(e) Neither licensees nor NRC nor Agreement States conduct continuous dose monitoring to measure real doses actually received by members of the public from air emissions from nuclear facilities. The computer codes and models used by NRC and licensees in the calculations of estimated doses to individuals in the public are uncertain; the accuracy and comprehensiveness of some codes have been called into question in the recent case of Maine Yankee and earlier with respect to, among others, Three Mile Island and Pilgrim.

(f) The NRC has recently adopted Regulatory Guidelines to clarify and formalize its "value-added guidance" for the "dollar per person-rem conversion factor policy," implementing a $2000/person-rem avoided dose but subjecting it to present worth considerations and limiting its scope to health effects. However, by so doing, the future application of this ALARA defining limit on an economic basis may result in less, rather than greater, protection of public health and safety. The health effects basis must incorporate all health impacts and forms of health effects and their true economic costs to the

victims, including the effects of low-dose and chronic low-dose non-cancer and non-fatal impacts, such as those that result from impairment of functioning of the human immune system.

(g) The NRC fails to provide for citizen law suits in the event of the agency's failure to abide by its responsibility to maintain air emissions and consequent independently measured doses well below EPA's 1989 NESHAP for radionuclides of 10 mrem/yr EDE, only thereby assuring that an "ample margin of safety" has in fact been met.

It is for all of these reasons plus others enumerated in the referenced ECNP comments to EPA which accompany this filing submitted to the NRC that we have requested the Commission to withdraw this ALARA constraint level rule and instead to promulgate an enforceable standard for maximum TEDE to a member of the public of no more than 5 mrem/yr, a figure reasonably ample to provide a margin of safety below EPA's NESHAP dose limit from radionuclide air emissions.

4:10 The fax version of these comments is being submitted to the Secretary of the Commission at ~~3:45~~ p.m. on March 12th. The hard copy with all attachments is being mailed on this same day. Thank you for accepting and we hope heeding our recommendations for assuring public health and safety.

Sincerely,

Judith H. Johnsrud

Judith H. Johnsrud, Ph.D.
Director, ECNP

AF 31-2-18
PDR

SEQUOYAH FUELS
A GENERAL ATOMICS COMPANY

DOCKETED
USNRC

'96 MAR 13 P2:05

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

March 7, 1996

RE: 9626-N

Certified Mail
Return Receipt Requested

Office of the Secretary
Attn: Docketing and Service Branch
Mail Stop: O-16 G15
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984)
(17)

Subject: Comments on Constraint Level for Air Emissions of Radionuclides (RIN 3150-AF31)
60 FR 63984; December 13, 1995

Dear Sir/Madam:

Sequoyah Fuels Corporation has recently reviewed the above referenced proposed change to 10 CFR Part 20 and recommends that the proposed change should not be made for the following reasons:

Proposed Change is a New Limit

NRC is proposing a new Section 20.1101(d) that would require licensees to implement a "constraint" upon air emissions from facilities. Although NRC states in the notice of the proposed rule change that this "constraint" is not a new limit, it clearly is. The proposed change would "*constrain air emissions of radioactive materials other than radon-222 so that the individual member of the public likely to receive the highest dose will not be expected to receive a dose in excess of 10 mrem/yr TEDE from these emissions. If a licensee subject to this requirement exceeds this dose constraint, the licensee shall report the exceedence as provided in § 20.2203 and promptly take appropriate corrective action to ensure against recurrence.*"

As defined in Webster's dictionary[1], constrain means, "to force by imposed stricture, restriction, or limitation." The fact that NRC requires that an exceedence of the "constraint" be reported and actions taken to ensure against recurrence means that this proposed change is a new limit. Therefore, if NRC has determined that the dose limit for members of the public should be reduced from 100 mrem/yr to 10 mrem/yr, a proposed rule change to take this action should be published. This change should apply to all licensees from all sources.

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[1] Webster's Ninth New Collegiate Dictionary, Merriam-Webster Inc., 1988.

HIGHWAY 10 & I-40 PO BOX 610, GORE, OKLAHOMA 74435 (918) 489-5511 FAX: (918) 489-2291

9603180116 3PP

No Benefit from Proposed Change

NRC states in proposed Regulatory Guide DG-8016, Constraints for Air Effluents for Licensees Other Than Power Reactors," that NRC licensees have consistently reduced doses from air effluents to small fractions of the dose limits using the ALARA process. In 1992, the Environmental Protection Agency (EPA) reported the results of two studies of materials facilities [57 FR 43173; September 18, 1995]. The first was a survey of 367 randomly selected nuclear materials licensees, and indicated that the highest estimated dose to a member of the public from effluents was 8 mrem/yr, based on conservative modeling. In addition, 98% of the facilities examined had doses to members of the public resulting from effluents less than 1 mrem/yr. The second study evaluated effluents from 43 additional facilities that were selected because of their potential for effluent that could result in significant public exposures. Of these 43 facilities, none exceeded 10 mrem/yr to a member of the public, and 75% of them reported less than 1 mrem/yr to a member of the public. This indicates that licensees are applying ALARA to their operations as ALARA was intended to be applied.

There is absolutely no need for additional regulation in this area. Licensees have been proactive and demonstrated that the ALARA principle is fully protective of the health and safety of the public. Although the proposed constraint level may be easily achieved, there is no need to take the action.

ALARA Guidelines Should Not be Codified as Numeric Values

The ALARA principle reduces any given dose to "as low as is reasonably achievable" taking into account the state of technology, and the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations. The ALARA concept has long been a part of radiation protection programs of NRC licensed facilities. The Nuclear Regulatory Commission first promulgated the ALARA concept in its radiation protection regulations in 1975. A 1991 revision established a requirement for all licensees to have a radiation protection program that includes ALARA provisions.

ALARA guidelines should not be codified as numeric values. However, the proposed change referenced above does just that. Imposition of this proposed change, and others like it, will make ALARA meaningless. Under the ALARA concept, a licensee would take measures to reduce emissions and radiation doses to workers and the public to levels which are ALARA balancing the benefit with the risk. In the case of system upsets, licensees would look at the incident, evaluate what happened and take actions to prevent recurrence. However, with a regulatory limit

in place, a report would be filed, a regulatory review would likely take place and special inspections may be performed. This level of response is not be justified. If NRC continues to reduce the limits to slightly above operating levels, a point will be reached where any upset in normal operating conditions will exceed a limit, even though it represents an insignificant health concern. Likewise, licensees will cease to improve their operations and take a strict compliance posture.

Sequoyah Fuels Corporation does not believe that increased regulation is necessary of the air emissions of NRC licensed facilities, and suggests that this proposed change is contrary to the stated congressional and executive direction which is to reduce the regulatory burden on industry.

Sincerely,

John H. Ellis

John H. Ellis
President

JHE:jp

AF 31-2-19
PDR

DOCKETED
USNRC

'96 MAR 13 P2:09

OFFICE OF SECRETARY
DOCKETING & SERVICE BRANCH

Tennessee Valley Authority, Post Office Box 1010, Muscle Shoals, Alabama 35662-1010

March 8, 1996

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984)
(18)

U.S. Nuclear Regulatory Commission
ATTN: Docketing and Services Branch
Washington, DC 20555-0001

Dear Sir or Madam:

The Tennessee Valley Authority appreciates this opportunity to comment on proposed changes to 10 CFR 20 contained in Draft Regulatory Guide DG-8016, CONSTRAINTS FOR AIR EFFLUENTS FOR LICENSEES OTHER THAN POWER REACTORS.

We wish to comment on only one aspect of the proposed regulation.

> If the calculated dose (total effective dose equivalent or TEDE) to an actual individual exceeds the constraint level of 10 mrem in a year, then a report must be sent to the NRC within 30 days and the report must include the individual's name, social security number, and date of birth.

The term "actual individual" is not defined and it is not clear what the term is intended to mean.

For example, suppose that a licensee calculates the TEDE at their facility boundary and an occupied dwelling is at that location. Has the TEDE to an "actual individual," the occupant of that dwelling, been calculated?

It could be very difficult to gather the name, social security number, and age of any person not directly employed by the licensee. Many people consider this information to be personal and may refuse to divulge it. Also, attempting to gather it could cause undue alarm or hostility in members of the public. Indeed, even asking a member of the public for this information could form the basis for unwarranted litigation against the licensee.

The constraint level of a TEDE of only 10 mrem is extremely low. This fact and the great uncertainty and conservatism built into the models employed in COMPLY and NCRP Commentary No. 3 make the collection and reporting of this personal information an unnecessary burden on licensees.

96 03 150195 2PP

Therefore, we request that this reporting requirement be deleted. If you decide to retain the requirement, then please clearly define the term "actual individual."

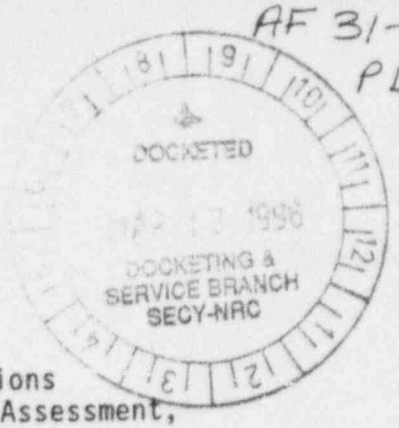
Thank you for this opportunity to comment on the proposed regulations. If you have any questions, please call me at (205) 386-2993.

Jesse H. Coleman

Jesse H. Coleman, Radiation Safety Officer
Program Operations, Safety
MPB 1B-M

COMMITTEE TO BRIDGE THE GAP
1637 BUTLER AVENUE, SUITE 203
LOS ANGELES, CALIFORNIA 90025
(310) 478-0829

AF 31-2
PDR



Comments
of
The Committee to Bridge the Gap

on

The Proposed "Constraint" Rule for Air Emissions
and Associated Draft Regulatory Guide, Environmental Assessment,
Finding of No Significant Impact, and Regulatory Analysis
by
The U.S. Nuclear Regulatory Commission

11 March 1996

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984)
(19)

The U.S. Nuclear Regulatory Commission (NRC) has published for public comment a proposed "constraint" rule for air emissions. Certain other documents, associated with the proposed rule, have also been published, particularly a draft regulatory guide (DG-8016), a Regulatory Analysis, an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI). The Committee to Bridge the Gap, a Los Angeles-based nuclear policy organization, hereby submits the following comments on the proposed constraint rule and associated documents.

Introduction

The Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to regulate air emissions from a wide variety of domestic nuclear facilities. EPA, under pressure from the nuclear industry, has for years resisted exercising that statutory responsibility, requiring several court orders to force compliance. Its latest approach to thwarting the intent of the CAA is to propose recission of its regulatory powers over hazardous air emissions from NRC-licensed nuclear facilities other than nuclear power plants (it has already rescinded its authority over the power plants.) In order to rescind the EPA regulatory authority, however, EPA must find that the NRC program to regulate such air emissions provides an ample margin of safety, a standard that EPA has set as a 10 mrem effective dose equivalent for the whole body for the maximally exposed individual, of which no more than 3 mrem can be from radioiodines. EPA has further defined this standard as requiring regulatory limits that are not to be exceeded and are to be calculated in a certain fashion, or via certain specified alternative methods.

NRC has now published a draft rule which would establish not a binding regulatory limit but a "constraint" level, a level which if exceeded would not constitute a violation of the regulations. The proposed rule on its face does not meet the EPA standard. The rule, as proposed, is clearly unacceptable.

In testimony before the EPA (copy attached), we delineated detailed deficiencies in the NRC proposed rule and why those defects made it legally impossible for EPA to rescind its regulatory authority in the area. Rather than repeat those arguments here, our testimony and the points raised therein

are incorporated herein by reference.

In what follows, we add to those points.

The Proposed NRC "Constraint" Rule

The proposed rule is a transparent attempt to provide EPA with sufficient superficial basis to rescind its own regulatory program without substantively altering NRC's standards, which are markedly less protective of the public and provide markedly less margin of safety. At the core of the difference between the two agencies' standards and programs is a ten-fold or more difference in permissible exposures from air emissions. The NRC's regulatory limit for members of the public sets the limit normally at 100 millirem per year [10 CFR 20.1301(a)(1)], although with permission from NRC facilities can legally operate so as to produce public exposures five times that, or 500 mrem [10 CFR 20.1301(c)].

These "permissible" doses are 10 to 50 times higher than EPA's air emissions standards of 10 mrem. The NRC limits of 100 to 500 mrem per year are roughly 10 to 50 chest X-ray equivalents per year. Doctors are extremely reluctant to order even a single X-ray if not clearly medically needed, because of the risks associated with the extra radiation exposure. It is difficult to believe the public would find acceptable these permissible radiation exposure levels set by NRC were they to be informed NRC viewed as acceptable the exposures to members of the public equal to hundreds or thousands of additional chest X-rays over one's lifetime.

Indeed, the current NRC regulatory limits are equivalent to a 1 in 300 lifetime risk of cancer (at the 100 mrem standard) and 1 in 60 risk (at the 500 mrem standard). [Source: U.S. General Accounting Office, "Consensus on Acceptable Radiation Risk to the Public is Lacking," September 1994, GAO/RCED-94-190.] This estimate by GAO is based on somewhat outdated risk estimates; if one uses the estimates of the National Academy of Sciences' Committee on Biological Effects of Ionizing Radiation (BEIR V), the risk factors are even higher--1 in 180 and 1 in 36 respectively. By contrast, "acceptable" risk for carcinogen exposure under EPA standards is generally set at 1 in a million. Thus, NRC's radiation standards for exposures of the public are currently four to five orders of magnitude less protective than the risk level generally considered acceptable by EPA.

Furthermore, NRC's method of calculating doses, found in 10 CFR 20 Appendix B, are substantially less protective than EPA's, even for the same exposures. As was pointed out to EPA in a 27 November 1995 letter by Robert C Shinn, Jr. Commissioner of the New Jersey Department of Environmental Protection, allowed air concentrations--for the same presumed dose--are generally tens to hundreds of times higher under NRC regulatory methods of calculation than EPA's. The dose conversion factors used by NRC in 10 CFR 20 Appendix B, Table 2, are up to 460 times less protective than are the factors used by EPA in 10 CFR 61, Appendix E, Table 2.

It is thus clear that NRC's current regulatory limits for radiation exposure to members of the public from air emissions are orders of magnitude less protective than EPA standards. The question then becomes whether the

proposed "constraint" rule adequately improves that situation--or, indeed, whether it changes it at all. The answer is clearly no.

It is self-evident, both from the content and stated purpose of the proposed rule, that its intention is to preserve the current relaxed regulatory posture of the NRC with regards to radiation exposures to the public while attempting to present to EPA a "basis" for rescinding its own, more protective regulations. Indeed, NRC states at the outset that the purpose of the proposed is not to provide stricter regulatory limits for its licensees and thus greater protection for the public, but instead merely to provide a basis for EPA to rescind its own regulatory program in the area. As shall be seen below, the NRC rule is carefully constructed so as to not create a regulatory limit more protective than the current NRC permissible levels of 10 to 50 chest-X-ray equivalents per year to members of the public. (Over 70 years, that is a "permissible" exposure of 700 to 3500 additional chest X-rays to an individual from nuclear facilities, as astonishingly lax regulatory framework.)

The NRC Proposed "Constraint" Rule is Not a Regulatory Limit; Exceeding it Would Not Constitute a Violation

The EPA limits are regulatory limits; exceeding them is a violation. NRC has been careful to not produce an equivalent level of protection. The proposed rule sets a level which is not a violation to exceed.

If one breaches the "constraint" level, all one has to do is submit a report and identify corrective measures to be taken. Failure to carry out the corrective measures would be a violation, but under the language as written, failure of the corrective measures to prevent a second breach of the constraint level would not be. It appears one could violate the constraint level time and time again, so long as one submits a report each time and carries out the corrective measures promised.

The "constraint" level is tied to the ALARA (as low as reasonably achievable) requirement. However, ALARA is defined in the NRC regulations as merely a goal, and the necessity of achievement of the goal is defined as necessary only to the extent that factors such as technology and economics make it acceptable. In other words, ALARA is not a requirement, but merely a suggestion to keep emissions as low as readily achievable given the economics and other factors of reducing emissions. On the other hand, regulatory limits such as EPA's NESHAP are real limits--one must not exceed certain exposures to the public, or a violation exists. NRC has created an empty shell of a standard, one that is not mandatory. Non-mandatory limits are no limits at all--that is why NRC has called this a "constraint" level, not a regulatory limit. As such, it is unacceptable.

The draft regulatory guide further relaxes matters unacceptably, by permitting far less stringent methods of calculating estimated exposures than under the EPA NESHAP.

Furthermore, NRC has not incorporated the proposed "constraint level" into any other section of the regulations than 10 CFR 20, so it has not become part of any licensing standard (see, e.g., 10 CFR 30, 61, or 70).

Conclusion

The proposed NRC "constraint rule" is a hollow shell designed to give EPA a superficial basis for rescinding its stricter regulations without altering the tremendously lax NRC regulatory standards and program. After the constraint rule, the "permissible" levels of exposure to members of the public from air emissions will be what they were before the rule--the equivalent of up to thousands of additional chest X-rays to an individual over his or her lifetime. Of a million people exposed to the NRC "permissible" levels, 5,000 to 28,000 would die from cancers caused by that "acceptable" exposure from the nuclear enterprise. And this does not even compensate for the NRC method of converting concentration of radioactive material to dose, which is 10 to 100 times more lax than EPA's. (One should note that even were the 10 mrem level to be not a "constraint" level but an actual regulatory limit, and were the NRC conversion factors for dose as lax as they are, the 10 mrem level is the equivalent of a 1 in 1800 lifetime risk of cancer, five hundred times more lax than the general EPA one-in-a-million level for acceptable risk.)

The proposed NRC "constraint" rule is not a regulatory limit; exceeding the 10 mrem figure is permissible, not prohibited; it does not include the EPA requirement of limiting radioiodine exposures to 3 mrem; more lax calculational techniques are permitted, making true exposures far higher than under the EPA scheme; and the only regulatory limits now in existence for the public (100 to 500 mrem annually) would remain the only limits after the "constraint" rule is finalized. The proposal, to put it gently, is a sham, leaving the NRC regulatory limits as lax as it was before the rule, but with the public less protected than under the current situation. This is because the purpose of the rule is to get EPA to rescind its regulatory program and standards, which are substantially more protective of the public than either the current or proposed NRC radiation programs.

The rule should be substantially strengthened; the EA and FONSI rejected, having failed to analyze either the alternatives of a stronger rule or the effect of the weak rule on the environment by contributing to rescission of the more protective EPA regulations and regulatory program; and the draft Reg. Guide rejected, as it permits calculation of exposure by means far less protective than EPA's.

Attachment

Testimony
of
Committee to Bridge the Gap
Before
the Office of Radiation and Indoor Air
Radiation Protection Division
U.S. Environmental Protection Agency
Regarding EPA's Proposals to Rescind Its Authority
to Regulate Radionuclide Air Emissions
from All Civil Nuclear Facilities

Washington, D.C.
29 February 1996

Introduction

This testimony is presented on behalf of the Committee to Bridge the Gap (CBG), a Los Angeles-based nuclear policy organization. Officers of CBG regret that, due to the distance and expense involved in traveling three thousand miles to Washington, D.C., they cannot be physically present at this hearing.

On 30 October 1995, in timely response to EPA's Federal Register notice of 28 September 1995 (60 FR 50161), ten organizations, including CBG, wrote to EPA requesting hearings on its proposal to rescind its authority under the Clean Air Act to protect the public from hazardous air emissions from all civil nuclear facilities, many thousands of such facilities in total. As we said in that letter, the EPA final rescission of its regulatory authority over air emissions from nuclear power plants and its proposed rescission of authority over all other licensed nuclear facility "entail wholesale removal of hard-won public protections from excessive emissions of radionuclides from the entire civil nuclear sector."

In our October 1995 letter to EPA, the ten groups requested, "to avoid the hearing being solely an "inside-the-Beltway affair," that hearing sessions be held elsewhere in the nation. Most of the groups requesting the hearings were not based in Washington; half were based in California. The groups requested expressly that one of the hearings be held in California.

As we concluded in that letter:

> The abdication of EPA regulatory authority over hazardous air emissions from all non-Department of Energy nuclear facilities is a serious matter, one which could lead to significant diminution of public protection from radionuclides of significant toxicity. It should be entertained only after thorough review of the issues.

Nonetheless, as of this date, we have received no response from EPA to our October letter. EPA did publish a notice in the Federal Register announcing a hearing in Washington, D.C. Since we have had no response to our request for hearings in California, we do not know if EPA will grant that request. On the chance that it will not, we hereby submit testimony to the hearing in Washington, but are handicapped by not being able to be present in person, with the opportunity to ask questions, rebut or comment upon other testimony, and the like.

Process Concerns

EPA published its notice of proposed rescission on 28 September 1995, based on a proposed NRC "constraint" rule which had not even been published for public comment at that time. The NRC draft rule was not published until 13 December. It is not yet a final rule, and may be changed prior to finalization. Additionally, a draft regulatory guide was to be issued in connection with the NRC draft rule. The draft regulatory guide is to provide guidance as to how to meet the draft "constraint" rule. Notice of the availability of the draft regulatory guide for public review and comment was not published in the Federal Register until 22 January. We have so far been unable to obtain it. Nonetheless, it too is not yet final and may be substantially revised in response to comments. Furthermore, NRC policy statements and procedures attempting to remedy EPA concerns about the adequacy and criteria for the NRC Agreement State program have not been finalized to date. Additionally, NRC inspection procedures appear not to have yet been modified to reflect the proposed "constraint" rule.

EPA has previously indicated that the current NRC regulatory program did not provide the assurance of an ample margin of safety required by the Clean Air Act (CAA) for EPA to rescind its regulatory authority in the arena of hazardous air emissions from NRC licensed facilities. It has insisted upon a new rule adopting the 10 mrem standard; a revised regulatory guide detailing how to comply with that rule; new inspection procedures detailing how to enforce it; and new NRC policy and procedures to remedy inadequacies in the NRC Agreement State program. Not one of these is yet final. Yet EPA has proposed rescinding its authority anyway, and insisted upon public comment on the adequacy of NRC steps not yet taken. This makes little sense. It puts the cart before the horse. To be rational, and not arbitrary and capricious, EPA should await finalization of any prospective NRC actions, and then solicit public comment as to whether those "final" NRC actions are adequate to provide the "ample margin of safety" assurance required by the CAA for EPA rescission.

On 17 January 1996, the Nuclear Information and Resource Service (NIRS), the Environmental Coalition on Nuclear Power, the Sierra Club, and CBG wrote to EPA requesting the comment period on EPA's proposal to rescind its NESHAPs be extended until after final action by the NRC on the matters that are supposed to provide equivalent protection to that of the EPA NESHAPs. To date, we have had no response to that request, either.

We hereby renew our request in this regard, specifying in detail the rule, reg. guide, inspection procedures, and Agreement State policy and procedures identified above. Public comment on these issues is premature

until those items are finalized by NRC.

Scope of Comments Solicited on EPA Proposed Rescission

We object to EPA's assertion in its 28 September 1995 Federal Register notice attempting to severely restrict the scope of public comments permitted on its proposed rescission of its NESHAP authority. All issues relevant to that proposed rescission should be within the scope of permitted comments. In particular, important developments have occurred in the last few years; prohibiting comments on those matters would arbitrarily shut the agencies ears, so to speak, to new facts that should be considered in determining whether public health would be harmed were EPA to rescind its NESHAP authority.

Comments on the Sufficiency of the Revisions of the NRC Program to Support the Finding Required by CAA Section 112(d)(9).

1. EPA has determined that a 10 mrem total effect dose equivalent (TEDE) from all pathways from air emissions, with no more than 3 mrem coming from radioiodines, is necessary to meet the CAA requirements. The NRC proposed "constraint" rule includes neither requirement.

NRC has inexplicably dropped the 3 mrem standard from radioiodines, and the proposed rule is therefore on its face not equivalent to the standard set by EPA. Additionally, NRC appears to permit calculations based on 10 CFR 20 Appendix B, air limits, which does not include all pathways (e.g., ingestion of agricultural products contaminated by air emissions) that are included in the EPA NESHAP. Thus, 10 mrem TEDE under the NRC proposed "constraint" rule is also on its face not equivalently protective and would result in doses above 10 mrem TEDE when all pathways are included, as required by EPA.

2. The EPA NESHAP limits are enforceable regulations, breach of which are prohibited as violations. The proposed NRC "constraint" goals are unenforceable suggestions, breach of which are permitted and not deemed violations. As such, they are not equivalently protective. Indeed, NRC would permit breach of the 10 mrem level, so long as it is reported; EPA NESHAP regulations prohibit breach of the 10 mrem level.

EPA has found that compliance with CAA requires prevention of doses from hazardous air emissions exceeding 10 mrem TEDE and 3 mrem from radioiodines. As such, exceedance of those limits is a violation of the EPA NESHAPs. The NRC draft rule declares doses in excess of 10 mrem TEDE to not be a violation. The current EPA rule prohibits doses greater than 10 mrem; the NRC proposed rule permits such doses. The two rules obviously do not produce equivalent protection.

3. The draft NRC regulation merely requires reporting when one exceeds 10 mrem and identifying proposed corrective actions. It is ambiguous as to whether, if the 10 mrem level is subsequently breached again, there is even then a violation, so long as one has taken the actions one previously proposed.

The NRC draft rule implies that, so long as one has taken the corrective actions one identified at the time of the first breach, there is no violation if one subsequently goes over the 10 mrem figure again. For example, if the second breaking of the 10 mrem figure is due to a different cause than the first or, even if due to the same cause, if one had taken the corrective measures promised, it would appear no violation would exist.

4. The rule does not require the use of the COMPLY code for calculating compliance with the NESHAP limit, or specified alternatives, as required by EPA. It therefore would potentially permit a calculational method less protective than the EPA rule.

The rule is completely silent as to how it is to be determined if one has gone over the 10 mrem figure. One can always calculate a dose to be as low as one wishes for regulatory purposes; if there is no mandatory calculational method, estimated doses will always be far below true doses.

Apparently, the draft revised Regulatory Guide provides some guidance on these matters; but NRC Regulatory Guides are not mandatory. Furthermore, it appears the Reg. Guide permits the licensee to ignore COMPLY and the EPA-approved alternatives and invent an alternative it wishes. NRC estimates it will take only 1 hour to demonstrate that any alternative code prepared by or used by a licensee has been "validated" against COMPLY or the other approved methods for demonstrating compliance and to "verify that each calculation performed by the code is being completed correctly." (NRC Supporting Statement for 10 CFR 20 ALARA Constraint and Draft Regulatory Guide DG-8016). Clearly, one cannot in a mere hour adequately validate an alternative code and verify that each calculation is being performed correctly; thus NRC is tacitly admitting inadequately validated and verified alternative calculational methods will be tolerated.

5. The EPA NESHAP has a provision for citizen suits to require compliance. The NRC "constraint" rule has none.

A significant part of the EPA program is the provision for citizen suits. This public right to action has had a salutary effect on the agency, prodding it to enforce the NESHAP more vigorously. It has had a salutary effect on the regulated entities, prodding them to more accurately report emissions and more aggressively try to limit them, knowing that their actions can result in court action brought by the public. And, when both the agency and the regulated entities fail, this mechanism has resulted in the public being able to obtain from the courts binding intervention requiring rectification of violations. EPA knows that this citizen right to action, found in the CAA, has not infrequently resulted in courts mandating corrective actions not voluntarily undertaken by polluters nor enforced by EPA prior to the court intervention. Taking away this protection can only result in a diminution of protection of public health and safety. The NRC rule in this regard too is not equivalent, and provides significantly less of a margin of safety than the EPA rule.

6. The Agreement States frequently regulate even more weakly than does NRC. NRC has never revoked an Agreement, thus never enforced the compatibility requirement. In addition, NRC will permit Agreement States three years to adopt parallel regulations to the "constraint rule." Thus, there will be a

period of three years from the time of the proposed rescission of EPA authority to the time Agreement States even have constraint rules in place (if they comply in a timely fashion). The public would therefore be bereft of protection from hazardous air emissions for several years--clearly not in keeping with the "ample margin of safety" requirement.

While some Agreement States have comparable or better regulatory programs to those of the NRC, many are disastrously weak. Inspections are often very much less frequent than under the NRC. Regulation is often limited to receiving annual reports from licensees and approving license amendment requests. It has recently been revealed that the State of Nevada, for example, failed to detect illegal dumping of liquid wastes by NECO (now US Ecology) at its Beatty, Nevada, radioactive waste facility for something on the order of a decade. Radioactively contaminated tools were being taken from waste barrels and distributed in the nearby town for years before being caught by state regulators. We have seen the same weaknesses and excessive coziness with licensees on the part of state regulators in California. NRC just gives carte blanche to Agreement States. It has never revoked an Agreement, no matter how egregiously weak the Agreement State's program may be. It has no way of ensuring adequacy of those programs if it fails to enforce the compatibility requirements; its only enforcement mechanism is revocation, a measure it has never taken. Therefore, the current and proposed NRC practices with regards Agreement States are inadequate to assure public protection with regards the NESHAPs.

7. The existing EPA rule requires that proposed facilities demonstrate that they will meet the NESHAP in order to obtain a permit to construct. The proposed NRC rule contains no such provision.

Currently, in order to obtain permission to construct a facility that may emit hazardous air pollutants such as radionuclides, an applicant must demonstrate that it will comply with the NESHAP limits, and EPA must approve or deny approval on that basis. The proposed NRC rule deals only with operations, not with permits to construct (or operate). Now, EPA cannot permit a facility to even be constructed if it can't demonstrate NESHAP compliance will result; under the NRC rule, there will be no such requirement, and construction will be permitted no matter what. This represents a serious lack of equivalency on the part of the NRC program and a significant reduction in public protection.

8. EPA has no basis for determining that the current or proposed NRC regulatory program is indeed keeping air emissions below the NESHAP levels. Much evidence, not reviewed by EPA, demonstrates the opposite.

EPA's review of this issue is based on data seven years older or older. It is arbitrary an capricious to not consider data more recent and relevant. Additionally, EPA did no actual measurements or even review of measurements to make a determination in this regard. It merely asked a select group of licensees to provide estimates of its releases. There was no verification of these numbers, no independent measurements. Most importantly, there was no review of actual dose/exposure data. Self-reporting is a grossly inadequate means of determining compliance. It is like asking a group of accused criminals which among them is guilty. The innocent among them may answer honestly, but it is a rare guilty person who will. Enforcement requires

independent determination of whether limits are being breached; not asking people whether they have breached limits.

Just one example of why relying on self-reporting is dangerous: The UCLA research reactor for years reported its Argon-41 emissions as a fraction of a curie per year. Years later, calibration errors and other violations of the license were detected, indicating that for years the Argon-41 emissions were under-reported by orders of magnitude. One year 0.303 curies had been reported; the true figure turned out to be 124.9. The next year 0.1046 Ci was reported; the corrected figure, corrected years later, was 41.9. And so on. Self-reported values without independent verification cannot be relied upon.

Additionally, it is very dangerous to rely upon models for estimating dose instead of looking at hard data. Given again the UCLA reactor example, the Argon-41 releases, even when corrected, are about an order of magnitude lower than those reported to EPA by MIT for its larger research reactor. EPA, using a computer model, estimated maximum doses from the MIT Argon-41 as well below the NESHAP of 10 mrem. Yet, UCLA, with its lower emissions, used TLDs to measure doses from Argon-41 which were many times the NESHAP. Indeed, the NRC estimated doses inside the Math Sciences Building adjacent to the reactor as several times greater than the NESHAP value, because the exhaust stack for the reactor was lower than and directly upwind of the main air inlet for the Math Building.

EPA claims that low-level radioactive waste facilities, for example, are well below the NESHAP. It bases that claim, however, on US Ecology's applications for NESHAP permits to construct for its California and Nebraska facilities. Self-serving claims by applicants are not evidence of compliance. EPA has not yet even approved or given final endorsement to the California application (we presume the same is true for Nebraska). Indeed, several COMPLY runs performed by US Ecology for its California project (and not provided to EPA) showed the project to not be in compliance with the NESHAP--by wide margins.

EPA's claims regarding existing LLRW dumps are even more incorrect. EPA claims that no exposures in excess of background have ever been reported at either the Richland or Beatty sites. No source is given for these extraordinary claims, but recent data make clear that both claims are false.

US Ecology's Richland dump, in the desert of western Washington State, has reported elevated tritium in vegetation at the site. In order to confirm it was coming from the trenches, the State authorities directed the creation of a vadose zone monitoring program, which identified elevated tritium in soil moisture, far in excess of standards. Tritium at a control location, far from the trenches, was orders of magnitude lower, confirming that the tritium was coming from US Ecology operations and not some other source on the Hanford site.

Thermoluminescent dosimeters (TLDs) measuring gamma radiation routinely report doses there many times the exposures permitted under EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) or NRC's standards for low-level radioactive waste facilities.

The Thermo-Luminescent Dosimeters (TLDs) monitoring gamma radiation at

US Ecology's Richland, Washington LLRW dump routinely show doses far in excess of both EPA's 40 CFR ñ61.102 NESHAPs (10 mrem/yr whole body) and NRC's 10 CFR ñ61 standards for LLRW sites (25 mrem/yr whole body). For example, in 1991, the TLDs at the southwest corner of US Ecology's dump (i.e., outside US Ecology's property line) recorded 172 mrem. That is more than twice background for that area. The nearby town of Richland, chosen as a background location, was at 74 mrem. Indeed, the northeast corner of the US Ecology property, farther from the trenches than the southwest corner, was at 86 mrem. Thus, the dose off the US Ecology property was on the order of 100 mrem above background--far in excess of NESHAP or 10 CFR ñ61 standards. Washington State Department of Health, Environmental Healthy Programs, Environmental Radiation Program 1991 Annual Report, August 1993, p. 34, 134-6, 243.

The radiation is clearly coming from US Ecology's operations and not other activities elsewhere on the Hanford property. The TLDs on the southern edge of US Ecology's property, close to the radioactive waste trenches, are consistently higher than those on the northern edge of the property, which are considerably further away from the trenches. See p. 243, id.

This pattern is reinforced in US Ecology's TLD measurements, which likewise show elevated readings, highest along the south fence. Readings as high as 270 mrem/yr. above background were reported in 1991, according to US Ecology's annual report. (p. 5-118) The elevated fenceline readings--elevated along all sides of the property--continues each year. The TLD fenceline reading in 1992, for example, led to this conclusion in US Ecology's Annual Report for 1992, p. 5-123, "The exposure attributable to site operations was 170 mrem." EPA's NESHAP standard is 10 mrem/yr annual exposure; the 10 CFR 61 standard for "low-level" radioactive waste sites is 25 mrem/yr from all exposure pathways combined. It is clear US Ecology's Richland operations are well above those standards. Using theoretical doses calculated by US Ecology for Ward Valley of a few mrem per year is clearly irrational, when the measured values at its other sites (including its arid sites) is one or two orders of magnitude higher.

In a 16 September 1994 letter to US Ecology, the NRC states that monitoring data for the Richland facility "clearly point to the U.S. Ecology facility as the source of elevated radiation." The letter refers to TLD measurements in excess of 100 millirem per year above background (10 times the NESHAPs) and reminds US Ecology that the NRC's former limit of 500 millirem per year had been reduced to 100 millirem and that the reported doses would thus be in excess of the NRC 100 millirem standard. Clearly, if that is true, the facility is far in excess of the NESHAPs as well.

At US Ecology's Beatty site, the same is true. Recent data, including a comprehensive review of the full operating record of the Beatty site just recently released by the Conference of Radiation Control Protection Directors (CRCPD), document widespread contamination, far in excess of background and far over the NESHAP standard. Vegetation has been reported significantly elevated in radioactivity. Soil samples have also been repeatedly contaminated. TLDs at the fenceline have shown quarterly doses of 500-700 millirem in 1965, 1.2 Rem the next year, and 480 mrem in 1967. EPA then commenced independent monitoring; six measurements exceeded 100 mrem/quarter. In 1976 they measured 1.14 Rem in a single quarter. Beginning in 1977, US

Ecology monitored 14 locations using TLDs. The maximum annual exposures during that period was 415 mrem, with doses between two hundred and four hundred mrem per year fairly standard between 1977 and the early 1980s. The releases were clearly coming from the facility, as doses at the south boundary remained significantly higher than all other locations (the south boundary is closest to the trenches). Doses remained many multiples of the NESHAP throughout the life of the facility, up through the most recent data reported by CRCPD, for the early 1990s.

These dose data are so far above the NESHAP that were any member of the public to spend just a few days in a year near the site, they would get exposures in excess of the NESHAP limits. And numerous members of the public (truckers, people delivering supplies, visitors, etc.) do spend in aggregate more than a few days per year near the facilities.

A thorough review of more recent data, and a reliance on actual data instead of self-reporting by licensees, is essential if EPA is to avoid making an arbitrary decision on the adequacy of the NRC program to provide an ample margin of safety and meet the NESHAP levels.

Conclusion

NRC's regulatory limit is 100 mrem per year; with permission, one can go up to 500 mrem. These regulatory limits are ten times and fifty times EPA's NESHAPs, not counting other factors involving the method for calculating doses that result in NRC actually permitting doses even higher relative to EPA's NESHAPs.

In order to eliminate the more stringent regulations by EPA, NRC has proposed, not a new regulatory limit equivalent to EPA's NESHAP, but an "ALARA constraint" level, breach of which would not be even a violation of the regulations. NRC's ALARA principle is a goal that one should reduce radiation to levels "reasonably achievable," taking into account economics and other factors not related to public health protection. It is clear that NRC has created a Potemkin Village type proposed ruled, an empty shell with nothing behind it, solely in order to provide EPA with an argument for rescinding its own authority to regulate emissions. The sole purpose in getting rescission is relief for industry from having to comply with what is clearly recognized to be a stricter standard, more adequately enforced. It is precisely because the NRC proposed rule is so much weaker, and the NRC's regulatory program so much weaker as well, that EPA cannot make the finding required by the Clean Air Act to justify rescinding its own regulatory program.

Let us be frank about the matter. The CAA NESHAP authority was a hard-won victory for public health and safety. EPA for many years now has resisted assuming the authority mandated it by law. Now it is attempting to eliminate that hard-won protection for the public. The NRC "constraint" rule provides markedly less protection for the public than the EPA NESHAP, and to rescind the latter would be to place the public at increased risk.

AF31-2-29
PDR

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Environmental Health & Safety

Irvine, CA 92717-2725

March 11, 1996

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR 63984) (20)

U.S. Nuclear Regulatory Commission
Washington, DC 20555-001
Attn: Docketing and Services Branch

RE: Comments on RIN3150-AF31: Proposed Constraint Level for Air Emissions of Radionuclides (60FR 63984), Draft Regulatory Guide DG-8016: Constraints for Air Effluents for Licensees other than Power Reactors, and Regulatory Analysis for the NRC Constraint Rule on Radionuclide Air Emissions from NRC and Agreement State Licensees other than Nuclear Power Reactors

The Health Physics Society's State and Federal Legislation Committee appreciates the opportunity to present the following comments on NRC's proposed rule, its guidance for implementation and regulatory analysis. These comments are those of this committee and do not necessarily represent those of the entire membership of the HPS or any committee member's employer.

GENERAL COMMENTS

The Simpson Amendment to the Clean Air Act Amendments of 1990 requires that before promulgating any new standard the Administrator of the Environmental Protection Agency must determine if the NRC's regulatory program pursuant to the Atomic Energy Act provides an "ample margin of safety to protect the public health" from airborne radionuclide emissions. In order to make such a determination, the EPA conducted two studies and required non-power reactor and Agreement-State licensees to perform evaluations and submit reports to EPA. The results showed that airborne radionuclide emissions from these categories of licensees are below EPA's arbitrary limit of 10mrem TEDE per year. Indeed, using very conservative assumptions (thereby overestimating doses), 98% of those licensees randomly selected for one of those studies showed less than 1mrem TEDE per year. Even so, the EPA Administrator expressed concern that future licensed activities could exceed the arbitrary 10mrem per year limit, thus requiring NRC to propose a new rule calling this value a "constraint" dose.

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Scientifically, the NRC's present annual limit of 100mrem (from all licensed activities) and the EPA's present annual limit of 25mrem (from nuclear fuel cycle activities) to any member of the public already provide an ample margin of safety. These numerical values are consistent with the recommendations of the National Council on Radiation Protection and Measurements.

In September 1992, the Health Physics Society's "Position Statement on Radiation Dose Limits for the General Public" stated that the Society "endorses the dose limits recommended by the NCRP and adopted by the NRC and EPA noting that (1) they are sufficiently conservative for public health protection, (2) compliance can be verified by actual measurement, (3) they can be achieved in most cases without sacrificing significant public benefits, and (4) they can be applied without discrimination to essentially all manmade sources."

Thus, there is no need to establish any new constraints or limits for airborne radionuclide emissions. However, if the NRC choses to continue with this rulemaking, please consider the following specific comments.

COMMENTS ON THE PROPOSED RULE

1. The proposed limit of 10 mrem/y TEDE is only a very small fraction of the differences in natural background radiation levels which occur within the United States. The NCRP has estimated that the average resident of the United States receives (in round numbers) about 300 mrem/y TEDE from natural background radiation, including radon progeny, and about 60 mrem/y TEDE from medical radiation exposures as a patient. However, mountainous areas have higher natural background levels, from increased levels of cosmic rays due to altitude and higher quantities of naturally occurring radioactive materials in the soils and in building materials. In fact, natural background levels in much of Colorado and Wyoming average 100 to 200 mrem/y higher than in coastal regions. Thus, the 10 mrem/y TEDE constraint level is only **5 to 10 percent of the difference in background levels between coastal areas and the mountainous states**.

2. The Clean Air Act limits airborne emissions to the environment--**to areas outside the boundary of the facility**. Airborne releases within the licensee's facility are more than adequately regulated by current NRC regulations. If the proposed dose constraints are kept, Section 20.1101(d) should be changed to apply to the individual member of the public likely to receive the highest **offsite** dose.

3. Airborne radionuclide emissions from all current materials licensees have already been shown to be below the 10mrem/y level, even with the unrealistic methods of the COMPLY code (yielding very conservative overestimates). Licensees have already spent a considerable amount of funds to show that they are in compliance (in the order of 100 million dollars). They should not have to do this again unless they increase their present uses of radioactive materials by a considerable amount--at least by several orders of magnitude.

4. Default values for each radionuclide should be included in the regulation to provide guidance on when licensees would need to do additional analyses (e.g., as an appendix to the rule). The values used for EPA's analyses would be a start. With improved and more realistic release fractions (such as 10^{-4} for volatile forms and 10^{-6} for nonvolatile forms) applied to the annual throughput of radioactive materials used by a licensee, calculations would only be needed for new processes, experiments and operations exceeding these values. Such evaluations should be conducted during the licensing process, rather than as a separate exercise.

5. Sealed containers, not just sealed sources, should be exempted from the calculations. For example, many radioactive compounds used in research are routinely stored in ultracold freezers for extended periods of time. These will not become airborne while frozen. Another example are the "multi-dose" or "single dose" vials, from which the contents are removed by hypodermic needles and syringes, then injected into patients or experimental systems, with no airborne releases.

6. Just as the present regulation of airborne emissions from all NRC-licensed facilities is adequate, so too is the regulation of airborne emissions from patients under present regulatory programs. To require extended patient stays in medical facilities after undergoing routine nuclear medicine procedures would be a further waste of the nation's limited resources.

COMMENTS ON THE PROPOSED REGULATORY GUIDE

1. Appendix A should be changed so that it contains an example to show calculations for an offsite release, rather than for airborne contamination within a licensee's building.

2. Incidentally, the inappropriate example in Appendix A has several significant errors in the equations and calculations, and should be corrected if it is used for any purpose.

3. The COMPLY code is very difficult to use and should be replaced by a much more user-friendly version in Windows with adjusted release fractions as stated above.

COMMENT ON THE REGULATORY ANALYSIS

The Regulatory Analysis neglects the significant amount of time required for licensees to obtain an extensive amount of detailed information and for making the calculations. We estimate that each licensee will spend 50-100 hours on the initial analyses, and perhaps 20 to 30 hours per year to accumulate data and show that no significant changes have occurred; to **reconfirm** the results of previous studies and reports prepared for the EPA! This unnecessary burden will likely cost the nation more than 100 million dollars, in addition to that already spent.

CONCLUSIONS

The proposed rule is scientifically amd economically unjustifiable. Existing regulatory limits are more than sufficient to provide an ample margin of safety for members of the public from all licensed activities, especially considering that detrimental human health effects do not occur until doses reach several orders of magnitude higher than those limits.

The proposed rule is unnecessary, considering the EPA's studies and reports which demonstrate that airborne radioactive emissions are not only well below NRC's existing safe limits, they are also below the proposed constraint level. The only action necessary to comply with the Simpson Amendment is the EPA's recission of its National Emission Standard for Hazardous Air Pollutants (NESHAP) for all radionuclide emissions.

If the NRC goes forward with this rulemaking, changes should be made (1) to clarify that it applies only to offsite environmental releases, (2) to provide exemptions for materials in sealed containers, and (3) to specify annual usage values for each radionuclide with appropriate release fractions. Also, the regulatory guide needs to provide a more appropriate mathematically correct example and the regulatory analysis needs to include a realistic estimate of the costs to the regulated community and an estimate of any societal benefits.

Please contact me if you desire any clarification of our concerns on this matter or if we can assist you by reviewing future rulemakings on any radiation protection issue.

Sincerely,

James G. Tripodes, Chairman
HPS State and Federal Legislation Committee

cc: Chairman Shirley A. Jackson
Commissioner Kenneth C. Rogers
Commissioner Greta J. Dicus
EDO James M. Taylor
Deputy EDO Hugh Thompson
EPA Administrator Carol Browner
Troy Hillier, OMB

AF 31-2-22
PDR

National Mining Association
Foundation for America's Future

DOCKETED
USNRC

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OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

March 12, 1996

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984) (21)

Mr. John C. Hoyle
Secretary
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, Maryland 20855

ATTN: Docketing and Services Branch

Re: Proposed Rule for Constraint Level For Air Emissions of Radionuclides And Draft Regulatory Guide DG-8016

Dear Mr. Hoyle:

The National Mining Association (NMA) submits these comments in response to the Nuclear Regulatory Commission's (NRC) proposed rule to establish a constraint level of 10 millirem a year (mrem/yr) total effective dose equivalent (TEDE) for dose to members of the public from air emission releases of radionuclides (other than Radon-222) from NRC licensed facilities (except power reactors). 60 Fed. Reg. 63984 (December 13, 1995). These comments also address NRC's modifications to Regulatory Guide 8.37 (Draft Regulatory Guide DG-8016, "Constraints for Air Effluents for Licensees Other Than Power Reactors," December 1995) (Draft Guidance). While NMA believes the proposed rule is unnecessary, it will support the constraint rule provided that the final rule excludes radon-222 **and its decay products.**

NMA's 381 members represent producers of most of America's coal, metals, industrial and agricultural minerals; manufacturers of mining and mineral processing machinery equipment and supplies; transporters; financial engineering firms; and other businesses related to coal and hardrock mining. These comments are submitted by NMA on behalf of its member companies who are NRC licensees. These members include the owners and operators of uranium mills and mill tailings sites and in situ uranium production facilities.

Proposed Constraint Rule

NMA continues to believe that NRC's existing comprehensive regulatory scheme provides an ample margin of public health and safety. If, however, as it appears, it is necessary for NRC to promulgate a constraint goal of 10 mrem/yr in order for the Environmental Protection Agency (EPA) to finally rescind Subpart I for facilities other than power reactors, NMA does not oppose a constraint rule **if NRC excludes doses caused by radon-222 and its decay products**. Specifically, NMA requests that the language in the constraint rule track the language of Subpart I so that it reads: "licensees...shall constrain air emissions of radioactive materials other than radon-222 **and its decay products** so that the individual member of the public likely to receive the highest dose will not be expected to receive a dose in excess of 10 mrem/yr TEDE from these emissions." For consistency reasons, it is important that the language of the two provisions match.

Moreover, NMA believes it is appropriate for NRC to also exclude radon-220 and its daughter products as these appear to have been inadvertently left out of the final Subpart I rule's exclusion. As proposed, Subpart I provided that "[f]or purposes of this subpart doses caused by radon-220, radon-222 and their decay products formed after their release from the facility are not included." 54 Fed. Reg. 9612, 9653 (March 7, 1989). The final rule did not mention radon-220. 54 Fed. Reg. 51654, 51697 (December 15, 1989). This seems to be more of an oversight than a reasoned decision and is not a mistake that should be carried over by NRC.

Subpart I facilities are already more than adequately regulated under 40 C.F.R. § 190 (the so-called 25 mrem rule) promulgated by EPA pursuant to the Atomic Energy Act (AEA) and conformed to and enforced by NRC in 10 C.F.R. §§ 20.1101 and 20.1301, in conjunction with the ALARA (as low as reasonably achievable) principle. The current AEA regulatory program already provides an ample margin of public health and safety. As NRC acknowledges, even without a constraint rule, air emissions from NRC licensed facilities will not exceed 10 mrem/yr. EPA's surveys and computer models show that even without a constraint rule, "virtually all of the facilities would cause doses to members of the public which are below 10 mrem/yr." 60 Fed. Reg. 50161, 50163 (September 28, 1995). NRC's notice even notes that "98% of the facilities surveyed [by EPA] reported doses to members of the public resulting from air emissions less than 1 mrem/yr." 60 Fed. Reg. at 63985. EPA's survey of Subpart I licensees found that "all surveyed facilities are presently in compliance with the quantitative emission limit in Subpart I [10 mrem/yr limit]" -- a far higher compliance percentage than exists in any other EPA regulatory program. 57 Fed. Reg. 56789 (December 1, 1992). Indeed, the NRC AEA regulatory program is more comprehensive than

Subpart I because, unlike the Clean Air Act which addresses only airborne radioactivity (excluding radon), the AEA regulations cover exposure from all pathways (excluding radon).

According to NRC, the proposed constraint rule "would codify numerical values for NRC's application of ALARA guidelines on radioactive air emissions from its licensees, other than power reactors." 60 Fed. Reg. at 63985. NMA is concerned that codifying the ALARA concept may create unnecessary implementation problems. As defined by NRC, ALARA by its very nature must take into account "the state of technology, the economics of improvement in relation to the state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest." 10 C.F.R. § 20.1003. These are often site-specific and ever-changing elements that cannot be codified in any meaningful fashion. Indeed, the D.C. Circuit has held that NRC cannot establish a single numerical value under the "as low as practicable" standard, the precursor to ALARA:

> [as low as practicable] requires consideration of health and safety effects, costs, the state of technology, and utilization of atomic energy in the public interest. While the last two factors may be constant for any reactor built or operating during a particular time period, the first two will presumably vary depending on the circumstances of each reactor. Since two of the four factors which determine whether radioactive emissions are "as low as practicable" are not constant, the Commission is precluded from determining that any particular positive level of emissions satisfies its requirement in all cases. York Committee For A Safe Environment vs. NRC, 527 F.2d 812, 814-15 (D.C. Cir. 1975).

Even though, as NRC's draft regulatory guidance for the proposed constraint rule states, "a constraint is **not** a limit....A constraint is a dose value above which specified licensee actions are required,"[1] ALARA still cannot be reduced to a single number. NMA does not oppose the constraint goal, although, for the reasons noted above, it is unnecessary and cannot be deemed ALARA.

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[1] Draft guidance, p. 3 (emphasis added).

NMA believes the constraint goal should be set forth in 10 C.F.R. Part 20 as proposed, rather than separately in each appropriate part of Title 10 as it is generic guidance and belongs with the other generally applicable standards for radiation protection.

Regulatory Guidance

The guidance notes that "[e]nforcement action would only be expected if a licensee fails to report an exceedence of the constraint or fails to take appropriate corrective action." (p. 3) In this context, NRC needs to recognize that there is uncertainty inherent in determining whether or not the constraint level has been exceeded. For example, if a model changed or new data were obtained it could affect the determination. A licensee also could be unaware that the 10 mrem level had been exceeded because of problems with the model or the data. In many instances, these sites are in very remote areas and the nearest individual who would receive the highest dose may be five miles or more away. Since the proposed rule, in effect, is an exercise in compliance by model, the Commission should build in reasonableness in the application of the rule in terms of licensee knowledge that the 10 mrem constraint limit has been exceeded.

In this vein, NRC needs to give licensees flexibility in determining compliance to account for the differences in radionuclide emissions from different sources (e.g., hospitals versus uranium mill tailings impoundments), and the variability in natural background levels. Background levels of radiation vary depending on the climate, geography, weather, meteorology, topography, and time. These variations account for differences among sites and even across time at one particular site. Application of NRC's constraint rule guidance must account for such factors in the licensee's selection of a scientifically sound methodology to determine compliance with the rule. Subpart I allows licensees to use other, better methods of determining compliance. NMA urges NRC to include in the constraint rule the methodologies allowed in §61.107 of Subpart I.

In addition, NMA requests that NRC clarify that NRC licensees only need to include in their calculations emissions from NRC licensed facilities and operations. Part 20 "establishes standard for protection against ionizing radiation resulting from activities conducted under licenses issued by" NRC. 10 C.F.R. § 20.1001(a). Emissions from unlicensed adjoining operations or unlicensed portions of operations, therefore, should not be part of the calculations. For example, for uranium recovery licensees, this means that windblown emissions from an adjoining uranium ore stockpile would not be included in the compliance determinations as unrefined and unprocessed ore is not subject to NRC regulation.

Finally, in explaining what information should be reported to NRC if the 10 mrem/yr is exceeded, NRC requires that, among other things, the following be included in the report: "[t]he estimate of dose to actual or modeled individuals (if actual individual doses are calculated, include the name, social security number, and date of birth for each individual exposed to concentrations in excess of the constraint)." It may not, however, always be possible for the licensee to identify the specific individual or obtain all the information requested. Accordingly, NMA requests that the phrase "if available" be added so that the language reads: "(if actual individual doses are calculated, include, **if available**, the name, social security number, and date of birth for each individual exposed to concentrations in excess of the constraint)".

* * *

NMA appreciates the opportunity to comment on this matter. If you have any questions or if we can be of assistance, please contact Katie Sweeney, NMA Associate General Counsel at 202/463-2627.

Sincerely,

Richard L. Lawson

Richard L. Lawson

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PDR

NEI

NUCLEAR ENERGY INSTITUTE

John F. Schmitt, CHP
DIRECTOR,
RADIOLOGICAL PROTECTION,
EMERGENCY PREPAREDNESS
& WASTE REGULATION

March 12, 1996

Information and Records Management
Branch (T-6 F33)
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

ATTENTION: Docketing and Services Branch

SUBJECT: NRC Proposed Rule - 10 CFR Part 20, "Constraint Level for Air Emissions of Radionuclides," (60 Fed. Reg. 63984, dated December 13, 1995)

This letter provides comments from the Nuclear Energy Institute (NEI)[1] on behalf of the nuclear energy industry in response to the Nuclear Regulatory Commission's (NRC's) request for public comment on the subject proposed rule. These comments have been prepared considering the nuclear energy industry's interest in the continued safe and beneficial use of radiation and radioactive materials without the burden of unnecessary duplicative regulation that provides no added benefit to public health and safety or protection of the environment.

In the supplementary information, NRC notes that the Environmental Protection Agency (EPA) has previously made the initial determination that "*...the NRC program under the Atomic Energy Act provides an ample margin of safety to protect the public health*" (57 FR 56880, dated December 1, 1992). However, according to NRC, "*EPA continued to express concern regarding the adequacy of measures to assure EPA that future emissions from NRC licensees will not exceed levels that will provide an ample margin of safety.*" NRC expects that this action will be the final step in "*...providing EPA with a basis upon which to rescind Subpart I* [of 40 CFR 61] *for NRC licensees other than power reactors.*" Based on this understanding of NRC's rationale for pursuing this additional regulation of radionuclides in air

[1] NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

1776 I STREET, NW SUITE 400 WASHINGTON, DC 20006-3708 PHONE 202 739 8000 FAX 202 785 4019

emissions from licensee facilities (other than power reactors), we concur with the intent of the proposed action and strongly encourage NRC to pursue this matter to conclusion, i.e. rescission by EPA of its Clean Air Act regulations for NRC and Agreement State licensees.

From our review of the subject *Federal Register* notice and the regulatory analysis contained in SECY-95-133, dated May 24, 1995, and SECY-95-229, dated September 8, 1995, we offer the following comments for consideration in the final rulemaking:

1. NRC should clarify explicitly that current NRC regulations, i.e., the limit of 100 mrem/yr on public dose and implementation of the ALARA principle, provide an adequate level of protection of public health and safety. Without such clarification, this action may incorrectly be taken to infer that maintaining the dose from radionuclides in air emissions at or below 10 mrem/yr is necessary to adequately protect health and safety. In fact, the intent of the rule is to address EPA's concern that the existing adequate level of protection of health and safety be maintained in the future, and thereby to support EPA's decision to rescind Subpart I of 40 CFR 61. As stated by NRC, "*there is expected to be little if any direct benefit to the health and safety of the public as a result of this rulemaking*" (SECY-95-229). The rulemaking's principal justification is that it will have the beneficial effect of reducing burden on licensees, if it leads to EPA's rescission of Subpart I to 40 CFR 61. Explaining this situation in the final rulemaking will help clarify that NRC is not redefining the existing adequate level of protection of health and safety.

2. The wording in the proposed rule may be taken to infer that the 10 mrem/yr constraint is a generic ALARA value for dose from radionuclides in air emissions for licensee facilities (other than power reactors). Examples include the wording in section 20.1101(d),"*...[t]o implement the ALARA requirements of § 20.1101(b),*" and in section 20.2203, which refers to "*ALARA constraints.*" It is our understanding that "*...there is no data currently available to indicate that 10 mrem/yr is ALARA or that any single value would be an appropriate generic ALARA value*" (SECY-95-229). Therefore, we suggest wording be used in the final rule that better clarifies the intent, for example, wording in section 20.1101(d) such as, "consistent with the ALARA principle codified in § 20.1101(b)," and use of the term "dose constraint" in section 20.2203.

3. We generally do not support regulation of a specific exposure pathway, rather than regulation of the total dose to members of the public from a source or practice. The proposed use of a dose constraint for a specific exposure pathway, e.g., air emissions, is not consistent with its use by other pertinent organizations, e.g., the International Commission on Radiological Protection

(ICRP), International Atomic Energy Agency (IAEA), and National Council on Radiation Protection and Measurements (NCRP), which have more commonly recommended application of constraints that are inclusive of the total dose from all exposure pathways with regard to a source or practice. However, we recognize in this case that use in the rule of a constraint on air emissions appears necessary to bring consistency between the different regulatory approaches of NRC and EPA and to be able to move forward to eliminating the unneeded duplicative regulation.

4. In the absence of a rescission by EPA of Subpart I to 40 CFR 61, the proposed rule, when issued and effective, will introduce additional regulatory burden on non-power reactor licensees. In light of NRC's stated intent to reduce the burden on licensees by eliminating unnecessary duplicative regulation, we suggest that NRC, in issuing the final rule, establish that the rule will not become effective until the rescission of Subpart I of 40 CFR 61 is completed by EPA and in effect.

In summary, we view the proposed rulemaking as a means for bringing some consistency between NRC and EPA regulatory approaches and thereby enhancing the basis for EPA to rescind Subpart I of 40 CFR 61, as provided by the 1990 amendments to the Clean Air Act. Rescission of Subpart I will have the effect of reducing burden on licensees because it will eliminate unnecessary duplicative regulation. The rule is not expected to, nor is it necessary or intended to, affect the existing adequate level of protection of health and safety assured by current NRC regulations. In light of this, the final rule should be promulgated in a manner that assures continuation in the future of the existing adequate level of protection of health and safety, while minimizing disruption of the underlying regulatory concepts and structure which has successfully assured that level of protection.

NEI appreciates the opportunity to comment on behalf of the nuclear energy industry on this proposed rule. If you have any questions or wish to discuss our comments, please contact Ralph Andersen (202/739-8111), Felix Killar (202/739-8126), or me (202/739-8108).

Sincerely,

John F. Schmitt

JFS/RLA/ec

03-12-96 [illegible] FROM MED-X [illegible]

AF 31-2[illegible]24
PDR

to FAX 301-415-1672

from B. Geary
2545 S. Birmingham Pl.
Tulsa, OK 74114

'96 MAR 13 A[illegible]:59

US Nuclear Regulatory Commission

Washington, DC 20555-0001

Attn: Docketing and Service Branch

Concerning standards for radioactive air emissions from nuclear power plants:

The NRC's proposed standards for radioactive air emissions are inadequate.

First of all, a real LIMIT on emissions is needed. Exceeding that limit would be a VIOLATION. Any company exceeding the limit should receive a NOTICE OF VIOLATION.

Secondly, citizens absolutely MUST BE ALLOWED TO SUE a company which exceeds regulatory limits or constraints (whichever they may be called) as to radioactive air emissions.

AF31-2-25
PDR

Nuclear Information and Resource Service
1424 16th Street NW suite 404
Washington, DC 20036
202-328-0002; 202-462-2183 fax

Comments on US Nuclear Regulatory Commission Proposed Rule
Constraint Level for Air Emissions of Radionuclides
10 CFR 20, RIN 3150-AF31
60 FR 239:63984-63987, Wednesday, December 13, 1995

US NRC
Washington, DC 20555-0001
ATTN: Docketing and Service Branch
11555 Rockville Pike
Rockville, Maryland

March 12, 1996

The Nuclear Information and Resource Service opposes the Constraint Rule. It is completely inadequate as substitute for the Environmental Protection Agency's National Emission Standards on Hazardous Air Pollutants for radionuclides from NRC and Agreement State licensed facilities.

The constraint level of 10 millirems TEDE is not a limit but a goal, whereas the NESHAPS are. ALARA is not an enforceable regulation. NRC's operative regulations, 10 CFR 20, allow higher levels of radionuclide emissions and employ less comprehensive methods for calculating millirem doses than required by the EPA. None of these (Constraint rule, ALARA, 10 CFR 20) provide as much protection as the EPA NESHAPS nor the ample margin of safety required by federal law. Additionally, 10 CFR 61, which allows 25 millirems annual exposure from "low-level" radioactive waste sites is less protective than the EPA's NESHAPS.

There appears to be no penalty in the proposed rule for repeated exceedences of the 10 millirem constraint level, no enforcement and no opportunity, as provided under the EPA regime, for citizen suits. It appears that self-reporting and confession of exceedences will be relied on for enforcement. Only failure to take self-imposed steps to prevent exceeding the level is a violation, even if those measures do not prevent future exceedences. This is unacceptable as the operative protection of the public from radionuclide air emissions.

We fully support the comments submitted on this proposed "Constraint" Rule and its associated draft regulatory guide, environmental assessment, analysis and the FONSI, by the Committee to Bridge the Gap.

NIRS comments to EPA on their proposed rescission of Subpart I NESHAPS are enclosed for the record.

enclosures: NIRS comments to EPA
CBG " "

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Nuclear Information and Resource Service
1424 16th Street NW, Suite 404
Washington, DC 20036
202-328-0002; 202-462-2183 fax

Comments on Environmental Protection Agency 40 CFR 61, [FRL-5301-1]
National Emission Standards for Radionuclide Emissions
From Facilities Licensed by the Nuclear Regulatory Commission
and Federal Facilities Not Covered by Subpart H
60 FR 188:50161, Thurs. 9/28/95; [RIN 2060-AE39]

Central Docket Section LE-131
Environmental Protection Agency
Attn: Air Docket No. A-92-50
Washington, DC 20460
202-233-9629 fax
February 29, 1996

The Nuclear Information and Resource Service (NIRS), many of its members and associated organizations, including the Safe Energy Communication Council, continue to oppose the Environmental Protection Agency's (EPA) proposal to rescind 40 CFR 61 Subpart I for facilities (other than commercial nuclear power reactors) licensed by the Nuclear Regulatory Commission (NRC) and Agreement States. (In the related, but now separate decision, NIRS is challenging the EPA's final decision to rescind Subpart I for reactors.)

In response to the September 28, 1995 reopening of the comment period, we submit the following comments:

EPA's NESHAP of 10 millirems ede (effective dose equivalent) per year for radioactive air emissions is a legal limit. Exceeding that level is a violation. It appears that citizen suit provisions are possible to increase the potential for enforcement, under EPA authority.

Rescinding EPA's responsibility and authority to NRC, based on the proposed Constraint Rule (Constraint Level for Air Emissions of Radionuclides, 60 FR 239:63984-63987, 12/13/95), replaces a legal limit with a design goal and appears to sacrifice citizen suits.

If, as NRC and EPA claim, the facilities can meet the 10 millirem ede/year goal, why not make it enforceable? Why remove this level of protection from public?

It is clear from page 63986 of the NRC's proposed rule that "...The constraint on dose from air emissions is different than a limit. Exceeding this constraint would not result in a Notice of Violation..." It's not illegal to release levels that lead to doses greater than 10 millirems TEDE (total effective dose equivalent) per year. Incentives and design goals are nice, but legal limits are necessary.

NIRS suggests that if a design goal is desired, it should be a zero release, zero dose goal accompanied by a legal, enforceable limit. We contend that adequate protection of the public means preventing exposure to radiation. In practice, since nuclear facilities routinely release radioactive materials into the air, there must be a legal, enforceable limit, not reliance on the good intentions of the licensee to self-report and correct to a Commission that has a history of failing to enforce technical specifications. In addition, the Nuclear Regulatory Commission is just now compiling a list of the exemptions it has granted in the past.

Procedurally, the public comment on this proposed rescission should be AFTER the NRC has adopted its Constraint Rule, or preferably something enforceable. What we are now being asked to comment on is a proposed rule which might never be adopted, might be adopted as is and later revised or rescinded, or be adopted in a different form than proposed. Even though EPA has stated the intent not to finalize its rescission until after the final adoption of the NRC rule, the public comment period should be reopened at that time. What legally-binding assurances are there that the NRC will adopt, enforce, and retain constraints?

What mechanism is there for implementing more protective standards as knowledge about low-dose health effects continues to indicate greater cancer and non-cancer negative health effects? This is necessary to provide an ample margin of safety. A listing of relevant studies indicating that the health effects of low-dose radiation are more harmful than previously believed will be provided. Studies with which EPA may be unfamiliar can be provided for the record. Those that are published by national and international radiation bodies and government agencies are referenced since they would be expected to be easily available to the EPA staff dealing with radiation protection.

With regard to "low-level" radioactive disposal sites and radioactive incinerators, we strongly support continued regulatory control by EPA. The EPA level appears to be more protective than NRC or Agreement States would require. Existing facilities are presumably already complying. If so, such protection should not be sacrificed. (We do question this presumption.)

We also have concerns about nuclear laundries, fuel fabrication, conversion and radioactive metal processing facilities, among others.

Responses to Questions posed:

1) No, NRC's Constraint rule will not assure that routine radionuclide releases result in doses that are consistently and predictably no greater than 10 millirems per year. If it were a verifiable legal limit with enforcement mechanisms beyond self-reporting by licensees, it might, but it is clearly only a design goal.

The proposed Constraint rule clearly allows doses greater than 10 millirems per yr. The rule itself, as proposed does not require the licensees to limit exposures to 10millirems/year--10 is the goal-which if exceeded requires some unstated action by the licensee to get back down under 10. Even if enforced, 10 millirems/year ede presents a fatal cancer risk of 1 in 2860 people--which is not an adequate level of protection.

2) No, NRC can't make that assurance because it is not required legally of its licensees. The Constraint rule is not an enforceable provision. ALARA is not enforceable in court and therefore not a regulation. It doesn't appear to be any stronger than a reg guide.

3) If states adopt the same constraint rule as NRC proposes, the same limitations will apply. States can, of course, with or without the Constraint rule, set stricter enforceable standards regardless of what NRC or EPA do.

4) States have authority to set stricter standards.

5) No.

EPA is relying on past-performance to predict the future performance. EPA is relying on good faith of NRC and its licensees. EPA is rescinding a potentially enforceable legal limit and greater opportunities for public input, to NRC based on a goal. This is unfounded.

Diane D'Arrigo
Radioactive Waste Project Director
NIRS
2/29/96

COMMITTEE TO BRIDGE THE GAP
1637 BUTLER AVENUE, SUITE 203
LOS ANGELES, CALIFORNIA 90025
(310) 478-0829

Comments
of
The Committee to Bridge the Gap

on

The Proposed "Constraint" Rule for Air Emissions
and Associated Draft Regulatory Guide, Environmental Assessment,
Finding of No Significant Impact, and Regulatory Analysis
by
The U.S. Nuclear Regulatory Commission

11 March 1996

The U.S. Nuclear Regulatory Commission (NRC) has published for public comment a proposed "constraint" rule for air emissions. Certain other documents, associated with the proposed rule, have also been published, particularly a draft regulatory guide (DG-8016), a Regulatory Analysis, an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI). The Committee to Bridge the Gap, a Los Angeles-based nuclear policy organization, hereby submits the following comments on the proposed constraint rule and associated documents.

Introduction

The Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to regulate air emissions from a wide variety of domestic nuclear facilities. EPA, under pressure from the nuclear industry, has for years resisted exercising that statutory responsibility, requiring several court orders to force compliance. Its latest approach to thwarting the intent of the CAA is to propose recission of its regulatory powers over hazardous

air emissions from NRC-licensed nuclear facilities other than nuclear power plants (it has already rescinded its authority over the power plants.) In order to rescind the EPA regulatory authority, however, EPA must find that the NRC program to regulate such air emissions provides an ample margin of safety, a standard that EPA has set as a 10 mrem effective dose equivalent for the whole body for the maximally exposed individual, of which no more than 3 mrem can be from radioiodines. EPA has further defined this standard as requiring regulatory limits that are not to be exceeded and are to be calculated in a certain fashion, or via certain specified alternative methods.

NRC has now published a draft rule which would establish not a binding regulatory limit but a "constraint" level, a level which if exceeded would not constitute a violation of the regulations. The proposed rule on its face does not meet the EPA standard. The rule, as proposed, is clearly unacceptable.

In testimony before the EPA (copy attached), we delineated detailed deficiencies in the NRC proposed rule and why those defects made it legally impossible for EPA to rescind its regulatory authority in the area. Rather than repeat those arguments here, our testimony and the points raised therein are incorporated herein by reference.

In what follows, we add to those points.

The Proposed NRC "Constraint" Rule

The proposed rule is a transparent attempt to provide EPA with sufficient superficial basis to rescind its own regulatory program without substantively altering NRC's standards, which are markedly less protective of the public and provide markedly less margin of safety. At the core of the difference between the two agencies' standards and programs is a ten-fold or more difference in permissible exposures from air emissions. The NRC's regulatory limit for members of the public sets the limit normally at 100 millirem per year [10 CFR 20.1301(a)(1)], although with permission from NRC facilities can legally operate so as to produce public exposures five times that, or 500 mrem [10 CFR 20.1301(c)].

These "permissible" doses are 10 to 50 times higher than EPA's air emissions standards of 10 mrem. The NRC limits of 100 to 500 mrem per year are roughly 10 to 50 chest X-ray equivalents per year. Doctors are extremely reluctant to order even a single X-ray if not clearly medically needed, because of the risks associated with the extra radiation exposure. It is difficult to believe the public would find acceptable these permissible radiation exposure levels set by NRC were they to be informed NRC viewed as acceptable the exposures to members of the public equal to hundreds or thousands of additional chest X-rays over one's lifetime.

Indeed, the current NRC regulatory limits are equivalent to a 1 in 300 lifetime risk of cancer (at the 100 mrem standard) and 1 in 60 risk (at the 500 mrem standard). [Source: U.S. General Accounting Office, "Consensus on Acceptable Radiation Risk to the Public is Lacking," September 1994, GAO/RCED-94-190.] This estimate by GAO is based on somewhat outdated risk estimates; if one uses the estimates of the National Academy of Sciences' Committee on Biological Effects of Ionizing Radiation (BEIR V), the risk factors are even higher--1 in 180 and 1 in 36 respectively. By contrast, "acceptable" risk for carcinogen exposure under EPA standards is generally set at 1 in a million. Thus, NRC's radiation standards for exposures of the public are currently four to five orders of magnitude less protective than the risk level generally considered acceptable by EPA.

Furthermore, NRC's method of calculating doses, found in 10 CFR 20 Appendix B, are substantially less protective than EPA's, even for the same exposures. As was pointed out to EPA in a 27 November 1995 letter by Robert C Shinn, Jr. Commissioner of the New Jersey Department of Environmental Protection, allowed air concentrations--for the same presumed dose-- are generally tens to hundreds of times higher under NRC regulatory methods of calculation than EPA's. The dose conversion factors used by NRC in 10 CFR 20 Appendix B, Table 2, are up to 460 times less protective than are the factors used by EPA in 10 CFR 61, Appendix E, Table 2.

It is thus clear that NRC's current regulatory limits for radiation exposure to members of the public from air emissions are orders of magnitude less protective than EPA standards. The question then becomes whether the proposed "constraint" rule adequately improves that situation --or, indeed, whether it changes it at all. The answer is clearly no.

It is self-evident, both from the content and stated purpose of the proposed rule, that its intention is to preserve the current relaxed regulatory posture of the NRC with regards to radiation exposures to the public while attempting to present to EPA a "basis" for rescinding its own, more protective regulations. Indeed, NRC states at the outset that the purpose of the proposed is not to provide stricter regulatory limits for its licensees and thus greater protection for the public, but instead merely to provide a basis for EPA to rescind its own regulatory program in the area. As shall be seen below, the NRC rule is carefully constructed so as to not create a regulatory limit more protective than the current NRC permissible levels of 10 to 50 chest-X-ray equivalents per year to members of the public. (Over 70 years, that is a "permissible" exposure of 700 to 3500 additional chest X-rays to an individual from nuclear facilities, as astonishingly lax regulatory framework.)

The NRC Proposed "Constraint" Rule is Not a Regulatory Limit; Exceeding it Would Not Constitute a Violation

The EPA limits are regulatory limits; exceeding them is a violation. NRC has been careful to not produce an equivalent level of protection. The proposed rule sets a level which is not a violation to exceed.

If one breaches the "constraint" level, all one has to do is submit a report and identify corrective measures to be taken. Failure to carry out the corrective measures would be a violation, but under the language as written, failure of the corrective measures to prevent a second breach of the constraint level would not be. It appears one could violate the constraint level time and time again, so long as one submits a report each time and carries out the corrective measures promised.

The "constraint" level is tied to the ALARA (as low as reasonably achievable) requirement. However, ALARA is defined in the NRC regulations as merely a goal, and the necessity of achievement of the goal is defined as necessary only to the extent that factors such as technology and economics make it acceptable. In other words, ALARA is not a requirement, but merely a suggestion to keep emissions as low as readily achievable given the economics and other factors of reducing emissions. On the other hand, regulatory limits such as EPA's NESHAP are real limits

--one must not exceed certain exposures to the public, or a violation exists. NRC has created an empty shell of a standard, one that is not mandatory. Non-mandatory limits are no limits at all--that is why NRC has called this a "constraint" level, not a regulatory limit. As such, it is unacceptable.

The draft regulatory guide further relaxes matters unacceptably, by permitting far less stringent methods of calculating estimated exposures than under the EPA NESHAP.

Furthermore, NRC has not incorporated the proposed "constraint level" into any other section of the regulations than 10 CFR 20, so it has not become part of any licensing standard (see, e.g., 10 CFR 30, 61, or 70).

Conclusion

The proposed NRC "constraint rule" is a hollow shell designed to give EPA a superficial basis for rescinding its stricter regulations without altering the tremendously lax NRC regulatory standards and program. After the constraint rule, the "permissible" levels of exposure to members of the public from air emissions will be what they were before the rule--the equivalent of up to thousands of additional chest X-rays to an individual over his or her lifetime. Of a million people exposed to the NRC "permissible" levels, 5,000 to 28,000 would die from cancers caused by that "acceptable" exposure from the nuclear enterprise. And this does not even compensate for the NRC method of converting concentration of radioactive material to dose, which is 10 to 100 times more lax than EPA's. (One should note that even were the 10 mrem level to be not a "constraint" level but an actual regulatory limit, and were the NRC conversion factors for dose as lax as they are, the 10 mrem level is the equivalent of a 1 in 1800 lifetime risk of cancer, five hundred times more lax than the general EPA one-in-a-million level for acceptable risk.)

The proposed NRC "constraint" rule is not a regulatory limit; exceeding the 10 mrem figure is permissible, not prohibited; it does not include the EPA requirement of limiting radioiodine exposures to 3 mrem; more lax calculational techniques are permitted, making true exposures far higher than under the EPA scheme; and the only regulatory limits now in existence for the public (100 to 500 mrem annually) would remain the only limits after the "constraint" rule is finalized. The proposal, to put it gently,

is a sham, leaving the NRC regulatory limits as lax as they were before the rule, but with the public less protected than under the current situation. This is because the purpose of the rule is to get EPA to rescind its regulatory program and standards, which are substantially more protective of the public than either the current or proposed NRC radiation programs.

The rule should be substantially strengthened; the EA and FONSI rejected, having failed to analyze either the alternatives of a stronger rule or the effect of the weak rule on the environment by contributing to rescission of the more protective EPA regulations and regulatory program; and the draft Reg. Guide rejected, as it permits calculation of exposure by means far less protective than EPA's.

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Testimony
of
Committee to Bridge the Gap
Before
the Office of Radiation and Indoor Air
Radiation Protection Division
U.S. Environmental Protection Agency
Regarding EPA's Proposals to Rescind Its Authority to Regulate Radionuclide Air Emissions
from All Civil Nuclear Facilities

Washington, D.C.
29 February 1996

Introduction

This testimony is presented on behalf of the Committee to Bridge the Gap (CBG), a Los Angeles-based nuclear policy organization. Officers of CBG regret that, due to the distance and expense involved in traveling three thousand miles to Washington, D.C., they cannot be physically present at this hearing.

On 30 October 1995, in timely response to EPA's Federal Register notice of 28 September 1995 (60 FR 50161), ten organizations, including CBG, wrote to EPA requesting hearings on its proposal to rescind its authority under the Clean Air Act to protect the public from hazardous air emissions from all civil nuclear facilities, many thousands of such facilities in total. As we said in that letter, the EPA final rescission of its regulatory authority over air emissions from nuclear power plants and its proposed rescission of authority over all other licensed nuclear facility "entail wholesale removal of hard-won public protections from excessive emissions of radionuclides from the entire civil nuclear sector."

In our October 1995 letter to EPA, the ten groups requested, "to avoid the hearing being solely an 'inside-the-Beltway affair,'" that hearing sessions be held elsewhere in the nation. Most of the groups requesting the hearings were not based in Washington; half were based in California. The groups requested expressly that one of the hearings be held in California.

As we concluded in that letter:

> The abdication of EPA regulatory authority over hazardous air emissions from all non-Department of Energy nuclear facilities is a serious matter, one which could lead to significant diminution of public protection from radionuclides of significant toxicity. It should be entertained only after thorough review of the issues.

Nonetheless, as of this date, we have received no response from EPA to our October letter. EPA did publish a notice in the Federal Register announcing a hearing in Washington, D.C. Since we

have had no response to our request for hearings in California, we do not know if EPA will grant that request. On the chance that it will not, we hereby submit testimony to the hearing in Washington, but are handicapped by not being able to be present in person, with the opportunity to ask questions, rebut or comment upon other testimony, and the like.

Process Concerns

EPA published its notice of proposed rescission on 28 September 1995, based on a proposed NRC "constraint" rule which had not even been published for public comment at that time. The NRC draft rule was not published until 13 December. It is not yet a final rule, and may be changed prior to finalization. Additionally, a draft regulatory guide was to be issued in connection with the NRC draft rule. The draft regulatory guide is to provide guidance as to how to meet the draft "constraint" rule. Notice of the availability of the draft regulatory guide for public review and comment was not published in the Federal Register until 22 January. We have so far been unable to obtain it. Nonetheless, it too is not yet final and may be substantially revised in response to comments. Furthermore, NRC policy statements and procedures attempting to remedy EPA concerns about the adequacy and criteria for the NRC Agreement State program have not been finalized to date. Additionally, NRC inspection procedures appear not to have yet been modified to reflect the proposed "constraint" rule.

EPA has previously indicated that the current NRC regulatory program did not provide the assurance of an ample margin of safety required by the Clean Air Act (CAA) for EPA to rescind its regulatory authority in the arena of hazardous air emissions from NRC licensed facilities. It has insisted upon a new rule adopting the 10 mrem standard; a revised regulatory guide detailing how to comply with that rule; new inspection procedures detailing how to enforce it; and new NRC policy and procedures to remedy inadequacies in the NRC Agreement State program. Not one of these is yet final. Yet EPA has proposed rescinding its authority anyway, and insisted upon public comment on the adequacy of NRC steps not yet taken. This makes little sense. It puts the cart before the horse. To be rational, and not arbitrary and capricious, EPA should await finalization of any prospective NRC actions, and then solicit public comment as to whether those "final" NRC actions are adequate to provide the "ample margin of safety" assurance required by the CAA for EPA rescission.

On 17 January 1996, the Nuclear Information and Resource Service (NIRS), the Environmental Coalition on Nuclear Power, the Sierra Club, and CBG wrote to EPA requesting the comment period on EPA's proposal to rescind its NESHAPs be extended until after final action by the NRC on the matters that are supposed to provide equivalent protection to that of the EPA NESHAPs. To date, we have had no response to that request, either.

We hereby renew our request in this regard, specifying in detail the rule, reg. guide, inspection procedures, and Agreement State policy and procedures identified above. Public comment on these issues is premature until those items are finalized by NRC.

Scope of Comments Solicited on EPA Proposed Rescission

We object to EPA's assertion in its 28 September 1995 Federal Register notice attempting to severely restrict the scope of public comments permitted on its proposed rescission of its NESHAP authority. All issues relevant to that proposed rescission should be within the scope of permitted comments. In particular, important developments have occurred in the last few years; prohibiting comments on those matters would arbitrarily shut the agencies ears, so to speak, to new facts that should be considered in determining whether public health would be harmed were EPA to rescind its NESHAP authority.

Comments on the Sufficiency of the Revisions of the NRC Program to Support the Finding Required by CAA Section 112(d)(9).

1. EPA has determined that a 10 mrem total effect dose equivalent (TEDE) from all pathways from air emissions, with no more than 3 mrem coming from radioiodines, is necessary to meet the CAA requirements. The NRC proposed "constraint" rule includes neither requirement.

NRC has inexplicably dropped the 3 mrem standard from radioiodines, and the proposed rule is therefore on its face not equivalent to the standard set by EPA. Additionally, NRC appears to permit calculations based on 10 CFR 20 Appendix B, air limits, which does not include all pathways (e.g., ingestion of agricultural products contaminated by air emissions) that are included in the EPA NESHAP. Thus, 10 mrem TEDE under the NRC proposed "constraint" rule is also on its face not equivalently protective and would result in doses above 10 mrem TEDE when all pathways are included, as required by EPA.

2. The EPA NESHAP limits are enforceable regulations, breach of which are prohibited as violations. The proposed NRC "constraint" goals are unenforceable suggestions, breach of which are permitted and not deemed violations. As such, they are not equivalently protective. Indeed, NRC would permit breach of the 10 mrem level, so long as it is reported; EPA NESHAP regulations prohibit breach of the 10 mrem level.

EPA has found that compliance with CAA requires prevention of doses from hazardous air emissions exceeding 10 mrem TEDE and 3 mrem from radioiodines. As such, exceedance of those limits is a violation of the EPA NESHAPs. The NRC draft rule declares doses in excess of 10 mrem TEDE to not be a violation. The current EPA rule prohibits doses greater than 10 mrem; the NRC proposed rule permits such doses. The two rules obviously do not produce equivalent protection.

3. The draft NRC regulation merely requires reporting when one exceeds 10 mrem and identifying proposed corrective actions. It is ambiguous as to whether, if the 10 mrem level is subsequently breached again, there is even then a violation, so long as one has taken the actions one previously proposed.

The NRC draft rule implies that, so long as one has taken the corrective actions one identified at the time of the first breach, there is no violation if one subsequently goes over the 10 mrem figure again. For example, if the second breaking of the 10 mrem figure is due to a different cause than the first or, even if due to the same cause, if one had taken the corrective measures promised, it would appear no violation would exist.

4. The rule does not require the use of the COMPLY code for calculating compliance with the NESHAP limit, or specified alternatives, as required by EPA. It therefore would potentially permit a calculational method less protective than the EPA rule.

The rule is completely silent as to how it is to be determined if one has gone over the 10 mrem figure. One can always calculate a dose to be as low as one wishes for regulatory purposes; if there is no mandatory calculational method, estimated doses will always be far below true doses.

Apparently, the draft revised Regulatory Guide provides some guidance on these matters; but NRC Regulatory Guides are not mandatory. Furthermore, it appears the Reg. Guide permits the licensee to ignore COMPLY and the EPA-approved alternatives and invent an alternative it

wishes. NRC estimates it will take only 1 hour to demonstrate that any alternative code prepared by or used by a licensee has been "validated" against COMPLY or the other approved methods for demonstrating compliance and to "verify that each calculation performed by the code is being completed correctly." (NRC Supporting Statement for 10 CFR 20 ALARA Constraint and Draft Regulatory Guide DG-8016). Clearly, one cannot in a mere hour adequately validate an alternative code and verify that each calculation is being performed correctly; thus NRC is tacitly admitting inadequately validated and verified alternative calculational methods will be tolerated.

5. The EPA NESHAP has a provision for citizen suits to require compliance. The NRC "constraint" rule has none.

A significant part of the EPA program is the provision for citizen suits. This public right to action has had a salutary effect on the agency, prodding it to enforce the NESHAP more vigorously. It has had a salutary effect on the regulated entities, prodding them to more accurately report emissions and more aggressively try to limit them, knowing that their actions can result in court action brought by the public. And, when both the agency and the regulated entities fail, this mechanism has resulted in the public being able to obtain from the courts binding intervention requiring rectification of violations. EPA knows that this citizen right to action, found in the CAA, has not infrequently resulted in courts mandating corrective actions not voluntarily undertaken by polluters nor enforced by EPA prior to the court intervention. Taking away this protection can only result in a diminution of protection of public health and safety. The NRC rule in this regard too is not equivalent, and provides significantly less of a margin of safety than the EPA rule.

6. The Agreement States frequently regulate even more weakly than does NRC. NRC has never revoked an Agreement, thus never enforced the compatibility requirement. In addition, NRC will permit Agreement States three years to adopt parallel regulations to the "constraint rule." Thus, there will be a period of three years from the time of the proposed rescission of EPA authority to the time Agreement States even have constraint rules in place (if they comply in a timely fashion). The public would therefore be bereft of protection from hazardous air emissions for several years--clearly not in keeping with the "ample margin of safety" requirement.

While some Agreement States have comparable or better regulatory programs to those of the NRC, many are disastrously weak. Inspections are often very much less frequent than under the NRC. Regulation is often limited to receiving annual reports from licensees and approving license amendment requests. It has recently been revealed that the State of Nevada, for example, failed to detect illegal dumping of liquid wastes by NECO (now US Ecology) at its Beatty, Nevada, radioactive waste facility for something on the order of a decade. Radioactively contaminated tools were being taken from waste barrels and distributed in the nearby town for years before being caught by state regulators. We have seen the same weaknesses and excessive coziness with licensees on the part of state regulators in California. NRC just gives *carte blanche* to Agreement States. It has never revoked an Agreement, no matter how egregiously weak the Agreement State's program may be. It has no way of ensuring adequacy of those programs if it fails to enforce the compatibility requirements; its only enforcement mechanism is revocation, a measure it has never taken. Therefore, the current and proposed NRC practices with regards Agreement States are inadequate to assure public protection with regards the NESHAPs.

7. The existing EPA rule requires that proposed facilities demonstrate that they will meet the NESHAP in order to obtain a permit to construct. The proposed NRC rule contains no such provision.

Currently, in order to obtain permission to construct a facility that may emit hazardous air pollutants such as radionuclides, an applicant must demonstrate that it will comply with the NESHAP limits, and EPA must approve or deny approval on that basis. The proposed NRC rule deals only with operations, not with permits to construct (or operate). Now, EPA cannot permit a facility to even be constructed if it can't demonstrate NESHAP compliance will result; under the NRC rule, there will be no such requirement, and construction will be permitted no matter what. This represents a serious lack of equivalency on the part of the NRC program and a significant reduction in public protection.

8. EPA has no basis for determining that the current or proposed NRC regulatory program is indeed keeping air emissions below the NESHAP levels. Much evidence, not reviewed by EPA, demonstrates the opposite.

EPA's review of this issue is based on data seven years older or older. It is arbitrary an capricious to not consider data more recent and relevant. Additionally, EPA did no actual measurements or even review of measurements to make a determination in this regard. It merely asked a select group of licensees to provide estimates of its releases. There was no verification of these numbers, no independent measurements. Most importantly, there was no review of actual dose/exposure data. Self-reporting is a grossly inadequate means of determining compliance. It is like asking a group of accused criminals which among them is guilty. The innocent among them may answer honestly, but it is a rare guilty person who will. Enforcement requires independent determination of whether limits are being breached; not asking people whether they have breached limits.

Just one example of why relying on self-reporting is dangerous: The UCLA research reactor for years reported its Argon-41 emissions as a fraction of a curie per year. Years later, calibration errors and other violations of the license were detected, indicating that for years the Argon-41 emissions were under-reported by orders of magnitude. One year 0.303 curies had been reported; the true figure turned out to be 124.9. The next year 0.1046 Ci was reported; the corrected figure, corrected years later, was 41.9. And so on. Self-reported values without independent verification cannot be relied upon.

Additionally, it is very dangerous to rely upon models for estimating dose instead of looking at hard data. Given again the UCLA reactor example, the Argon-41 releases, even when corrected, are about an order of magnitude lower than those reported to EPA by MIT for its larger research reactor. EPA, using a computer model, estimated maximum doses from the MIT Argon-41 as well below the NESHAP of 10 mrem. Yet UCLA, with its lower emissions, used TLDs to measure doses from Argon-41 which were many times the NESHAP. Indeed, the NRC estimated doses inside the Math Sciences Building adjacent to the reactor as several times greater than the NESHAP value, because the exhaust stack for the reactor was lower than and directly upwind of the main air inlet for the Math Building.

EPA claims that low-level radioactive waste facilities, for example, are well below the NESHAP. It bases that claim, however, on US Ecology's *applications* for NESHAP permits to construct for its California and Nebraska facilities. Self-serving claims by applicants are not evidence of compliance. EPA has not yet even approved or given final endorsement to the California application (we presume the same is true for Nebraska). Indeed, several COMPLY runs performed by US Ecology for its California project (and not provided to EPA) showed the project to *not* be in compliance with the NESHAP--by wide margins.

EPA's claims regarding existing LLRW dumps are even more incorrect. EPA claims that no exposures in excess of background have ever been reported at either the Richland or Beatty sites. No source is given for these extraordinary claims, but recent data make clear that both claims are false.

US Ecology's Richland dump, in the desert of western Washington State, has reported elevated tritium in vegetation at the site. In order to confirm it was coming from the trenches, the State authorities directed the creation of a vadose zone monitoring program, which identified elevated tritium in soil moisture, far in excess of standards. Tritium at a control location, far from the trenches, was orders of magnitude lower, confirming that the tritium was coming from US Ecology operations and not some other source on the Hanford site.

Thermoluminescent dosimeters (TLDs) measuring gamma radiation routinely report doses there many times the exposures permitted under EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) or NRC's standards for low-level radioactive waste facilities.

The Thermo-Luminescent Dosimeters (TLDs) monitoring gamma radiation at US Ecology's Richland, Washington LLRW dump routinely show doses far in excess of both EPA's 40 CFR §61.102 NESHAPs (10 mrem/yr whole body) and NRC's 10 CFR §61 standards for LLRW sites (25 mrem/yr whole body). For example, in 1991, the TLDs at the southwest corner of US Ecology's dump (i.e., outside US Ecology's property line) recorded 172 mrem. That is more than twice background for that area. The nearby town of Richland, chosen as a background location, was at 74 mrem. Indeed, the northeast corner of the US Ecology property, farther from the trenches than the southwest corner, was at 86 mrem. Thus, the dose off the US Ecology property was on the order of 100 mrem above background--far in excess of NESHAP or 10 CFR §61 standards. Washington State Department of Health, Environmental Healthy Programs, *Environmental Radiation Program 1991 Annual Report*, August 1993, p. 34, 134-6, 243.

The radiation is clearly coming from US Ecology's operations and not other activities elsewhere on the Hanford property. The TLDs on the southern edge of US Ecology's property, close to the radioactive waste trenches, are consistently higher than those on the northern edge of the property, which are considerably further away from the trenches. See p. 243, *id.*

This pattern is reinforced in US Ecology's TLD measurements, which likewise show elevated readings, highest along the south fence. Readings as high as 270 mrem/yr. above background were reported in 1991, according to US Ecology's annual report. (p. 5-118) The elevated fenceline readings--elevated along all sides of the property--continues each year. The TLD fenceline reading in 1992, for example, led to this conclusion in US Ecology's Annual Report for 1992, p. 5-123, "The exposure attributable to site operations was 170 mrem." EPA's NESHAP standard is 10 mrem/yr annual exposure; the 10 CFR 61 standard for "low-level" radioactive waste sites is 25 mrem/yr from all exposure pathways combined. It is clear US Ecology's Richland operations are well above those standards. Using theoretical doses calculated by US Ecology for Ward Valley of a few mrem per year is clearly irrational, when the ***measured*** values at its other sites (including its arid sites) is one or two orders of magnitude higher.

In a 16 September 1994 letter to US Ecology, the NRC states that monitoring data for the Richland facility "clearly point to the U.S. Ecology facility as the source of elevated radiation." The letter refers to TLD measurements in excess of 100 millirem per year above background (10 times the NESHAPs) and reminds US Ecology that the NRC's former limit of 500 millirem per year had been reduced to 100 millirem and that the reported doses would thus be in excess of the

NRC 100 millirem standard. Clearly, if that is true, the facility is far in excess of the NESHAPs as well.

At US Ecology's Beatty site, the same is true. Recent data, including a comprehensive review of the full operating record of the Beatty site just recently released by the Conference of Radiation Control Protection Directors (CRCPD), document widespread contamination, far in excess of background and far over the NESHAP standard. Vegetation has been reported significantly elevated in radioactivity. Soil samples have also been repeatedly contaminated. TLDs at the fenceline have shown *quarterly* doses of 500-700 millirem in 1965, 1.2 Rem the next year, and 480 mrem in 1967. EPA then commenced independent monitoring; six measurements exceeded 100 mrem/quarter. In 1976 they measured 1.14 Rem in a single quarter. Beginning in 1977, US Ecology monitored 14 locations using TLDs. The maximum annual exposures during that period was 415 mrem, with doses between two hundred and four hundred mrem per year fairly standard between 1977 and the early 1980s. The releases were clearly coming from the facility, as doses at the south boundary remained significantly higher than all other locations (the south boundary is closest to the trenches). Doses remained many multiples of the NESHAP throughout the life of the facility, up through the most recent data reported by CRCPD, for the early 1990s.

These dose data are so far above the NESHAP that were any member of thepublic to spend just a few days in a year near the site, they would get exposures in excess of the NESHAP limits. And numerous members of the public (truckers, people delivering supplies, visitors, etc.) do spend in aggregate more than a few days per year near the facilities.

A thorough review of more recent data, and a reliance on actual data instead of self-reporting by licensees, is essential if EPA is to avoid making an arbitrary decision on the adequacy of the NRC program to provide an ample margin of safety and meet the NESHAP levels.

Conclusion

NRC's regulatory limit is 100 mrem per year; with permission, one can go up to 500 mrem. These regulatory limits are ten times and fifty times EPA's NESHAPs, not counting other factors involving the method for calculating doses that result in NRC actually permitting doses even higher relative to EPA's NESHAPs.

In order to eliminate the more stringent regulations by EPA, NRC has proposed, not a new regulatory limit equivalent to EPA's NESHAP, but an "ALARA constraint" level, breach of which would not be even a violation of the regulations. NRC's ALARA principle is a goal that one should reduce radiation to levels "reasonably achievable," taking into account economics and other factors not related to public health protection. It is clear that NRC has created a Potemkin Village type proposed ruled, an empty shell with nothing behind it, solely in order to provide EPA with an argument for rescinding its own authority to regulate emissions. The sole purpose in getting rescission is relief for industry from having to comply with what is clearly recognized to be a stricter standard, more adequately enforced. It is precisely because the NRC proposed rule is so much weaker, and the NRC's regulatory program so much weaker as well, that EPA cannot make the finding required by the Clean Air Act to justify rescinding its own regulatory program.

Let us be frank about the matter. The CAA NESHAP authority was a hard-won victory for public health and safety. EPA for many years now has resisted assuming the authority mandated it by law. Now it is attempting to eliminate that hard-won protection for the public. The NRC "constraint" rule provides markedly less protection for the public than the EPA NESHAP, and to rescind the latter would be to place the public at increased risk.

AF 31-2-24
PDR

FAX to 202 634-3343

To: U.S. Nuclear Regulatory Commission
Docketing and Service Branch

From: Dooley Kiefer
629 Highland Rd., Ithaca, NY 14850

Subject: Standards for radioactive air emissions

Date: 12 March 1996

No. of pages: 1

Dear Sir/Madam,

I understand that US EPA is bowing out of the picture and leaving it to the NRC to regulate air emissions from Nuclear reactors and other nuclear facilities. I have two strong comments:

1) Please adopt the EPA's proposed 10 millirem/year effective dose equivalent as a real standard, not as a voluntary "constraint".

2) Such a standard needs to be enforceable; if NRC does not intend to enforce, then allow citizen enforcement suits.

I feel strongly about this, since radiation is not good for living things!

Thankd you for the chance to comment.

Sincerely,

AF 31-2-27
PDR

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USEC

United States
Enrichment Corporation

March 12, 1996

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Attention: Docketing and Services Branch

SERIAL: GDP 96-0052

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR 63984)
(26)

Dear Sir or Madam:

The United States Enrichment Corporation (USEC) wishes to submit comments in support of the proposed revision to 10 CFR Part 20, Constraint Level for Air Emissions of Radionuclides, which appeared in the *Federal Register* on December 13, 1995 (60 FR 63984). USEC supports this revision to the Nuclear Regulatory Commission's (NRC's) radiological protection regulations because the revision facilitates the Environmental Protection Agency's (EPA's) proposed recision of 40 CFR Part 61, Subpart I, National Emissions Standards for Radionuclide Emissions for facilities licensed by the NRC, other than commercial nuclear power reactors.

USEC believes that the proposed revision assures the EPA that the level of radionuclide releases from NRC regulated facilities will continue to be kept as low as reasonably achievable (ALARA), and that air emissions will be maintained below the level of 10 mrem/yr Effective Dose Equivalent (EDE) established in the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) regulations. USEC appreciates that the NRC and the EPA have been working together to develop an appropriate regulatory method to ensure that once EPA rescinds Subpart I, the traditionally low levels of air emissions from NRC's regulated facilities and the operational philosophy of ALARA continue to be maintained. Once this proposed revision to 10 CFR Part 20 is promulgated, EPA can, as authorized under Section 112(d)(9) of the Clean Air Act Amendments, rescind its regulations under 40 CFR 61, Subpart I for NRC regulated facilities other than commercial nuclear power reactors.

Please feel free to contact me if you would like to discuss this matter further. I can be reached at (301) 564-3413.

Sincerely,

Robert L. Woolley
Nuclear Regulatory Assurance and Policy Manager

AF31-2-29
PDR

ACNP/SNM

DOCKETED
USNRC

American College of Nuclear Physicians/Society of Nuclear Medicine

GOVERNMENT RELATIONS OFFICE

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OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

March 12, 1996

U.S. Nuclear Regulatory Commission
Attn: Docketing and Services Branch
Washington, DC 20555-0001

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR 63984)
(27)

RE: U.S. Nuclear Regulatory Commission Proposed Rule, "Constraint Level for Air Emissions of Radionuclides," December 13, 1995, 60 FR 63984.

Dear Sir/Madam:

The American College of Nuclear Physicians (ACNP) and the Society of Nuclear Medicine (SNM) are pleased to comment on this proposed rule. ACNP and SNM represent 14,000 physicians, technologists, pharmacists, and scientists who provide quality diagnostic and therapeutic nuclear medicine services to patients and perform research and development in this specialty. Each year over 10 million nuclear medicine procedures are performed in the United States.

The ACNP and SNM are concerned about the implementation of the NRC proposed rule as currently written. While we support NRC jurisdiction over EPA jurisdiction in this area, we believe there are several aspects of the NRC rule that need to be addressed. We will attempt to outline those points below.

The Clean Air Act (CAA) referred to uncontrolled airborne emissions beyond the boundary of the licensee's property. Limits for the public were off-site limits. Airborne emissions within the licensee's establishment are completely and adequately covered by NRC's extensive requirements for facility operation. NRC needs to change § 20.1101(d) to read, " ... so that individual member of the public likely to receive the highest off-site dose ..." which simply adds the clarification of "off-site" to the regulation. ACNP and SNM are concerned that NRC regulations could be interpreted as controlling air emissions for a member of the public within the facility. This concern of ours is directly derived from Appendix A of the regulatory guide which cites an example that is not off-site.

ACNP and SNM are also very concerned about problems that could arise in the states if the compatibility level remains at division 2. This determination could potentially allow states to set a more restrictive standard that could jeopardize the field of nuclear medicine. Airborne radionuclides cross state lines and we believe that addressed as a radiation safety issue, a federal standard is justified. Also with a level as low as 10 mrem/yr., any level lower than that threatens the practice of nuclear medicine. We strongly believe that the compatibility levels should be consistent with the regulations for power plants and be changed to division level 1.

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Finally, we urge the NRC to consider provisions that would allow facilities to avoid the burden of calculating air emissions every year. The EPA has already demonstrated that all 22, 000 materials licensees are under the allowable limits at present. We strongly recommend that unless facilities alter their current activities they not be required to complete the calculations requested by NRC in the supplementary information section of this proposed rule. Nuclear medicine facilities have been safe for 60 years, and it is unnecessary to require calculations every year simply to prove that the licensee is consistent with EPA and NRC data already gathered. This would not however, change the reporting structure if a licensee had reason to believe that new activities led to a level that exceeded 10 mrem/yr.

We urge the NRC to consider these comments in conjunction with comments submitted on the Regulatory Guide before publishing a final rule in this area. If the ACNP and SNM can offer any assistance or answer any additional questions feel free to contact Mr. David Nichols, Associate Director of Government Relations, at (703) 708-9773.

Sincerely,

David R. Brill, M.D.
President
American College of Nuclear Physicians

Peter T. Kirchner, M.D.
President
Society of Nuclear Medicine

Enclosure: ACNP/SNM comments on the constraint rule regulatory guide

AF31-2-79
PDR DOCKETED USNRC

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'96 MAR 14 A8:19

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DOCKETING & SERVICE
BRANCH

March 10 1996

U.S. NRC
Washington, DC
20555-001

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR6.3984)
(28)

attn: Docketing & Service Branch

Subject: Radioactive air emissions standards

Radioactive air emissions must not be liberalized.

Loosening of standards will result in release of ionizing radioactivity to the general population, with consequent formation of tumors in the present generation and mutagenic & teratogenic changes in following generations. Limits should be reduced by (5) fold.

Presently, we have over 10 million cancer ridden citizens plus miscarriages and a reduction in sperm count.

Walbridge J Powell

9603150196 1p.

AF31-2-30
PDR

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

DOCKETED
USNRC

'96 MAR 14 A8:53

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DOCKETING & SERVICE
BRANCH

National Institutes of Health
Bethesda, Maryland 20892

March 12, 1996

Rules Review and Directives Branch, DFIPS
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984) (39)

Dear Madam/Sir:

The Radiation Safety Branch (RSB), National Institutes of Health (NIH) wishes to provide comments regarding the proposed rule "Constraint Level for Air Emissions of Radionuclides." Federal Register Vol. 60 No. 239, December 13, 1995 and Draft Regulatory Guide DG-8016, "Constraints for Air Effluents for Licensees Other than Power Reactors", December 1995.

The NIH is a large facility licensee conducting biomedical research, medical diagnosis and treatment. Our management of extensive and varied uses of radioactive material within a large and diverse community comprised of research, patient, and ancillary services personnel at NIH, provides us with the experience and knowledge to offer pertinent and realistic comments on the consequences of the proposed rule. NIH was one of the over 400 NRC licensees studied by EPA during its implementation of NESHAPS and was a "beta" test site for the COMPLY computer code. Furthermore, the professional staff of the RSB includes a number of past employees of EPA, one of whom was responsible for the implementation of radionuclide NESHAPs and who has intimate knowledge of the intended application of the EPA regulation under consideration for NRC adoption.

The premise of the proposed rule is to provide a basis for the withdrawal of the U.S. Environmental Protection Agency's regulation under 40 CFR 60, Subpart I. However, the U.S. Nuclear Regulatory Commission's proposal appears to have redefined the conditions for the application of NESHAPs to the point that the regulatory analysis performed by NRC is not accurate. This is particularly true for location of the member of the "general public" which the NRC has redefined as an individual inside the facility, rather than outside, and the release point has been inappropriately moved (as noted in the example in the draft regulatory guide) to a laboratory door inside the facility.

The proposed rule 10 CFR 20.1003, 20.1101, 20.2203 elicit the following concerns:

The reporting conditions are overly burdensome due to the redefinition of the "individual member of the general public likely to receive the highest dose" to be an individual inside the licensed facility. Clearly the EPA intended this limit to apply to members of the general public outside the facility, not inside. A conflict exists as the NRC defines a member of the public in 10 CFR 20.1003 and the EPA definition which considers "emissions of radionuclides, including iodine, to the ambient air from a facility [not within the facility] regulated under this subpart..." (40 CFR 61.102(a) Standard). The NRC already limits dose to non-occupationally exposed individuals within a facility under 20.1003 and 20.1301 (100 mrem/yr TEDE.) The NRC should specifically

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exclude the public inside the facility from consideration in this proposed rule. 20.1101 should specifically address exposure "offsite" or "outside the licensed facilities".

Requiring licensees to report individual names, social security numbers etc, for an "exceedance" of the dose constraint is not only unnecessary but may be impractical as the doses are calculated to a "hypothetical" receptor. What purpose would such reporting serve when no data exists to demonstrate any harm or effect from a dose which is a small fraction of annual background? Requiring the reporting of trivial or minimal exposures contributes to the public's escalating fear of all levels of radiation. Requiring reports of trivial, "hypothetical" doses, against an established "constraint" implies absolute and determinable risk for all exposures, and reinforces and perpetuates the public's perception that all levels of radiation are potentially harmful. Furthermore, this reporting level is completely inconsistent with the recent position statement "Radiation Risk in Perspective," articulated by the Health Physics Society.

In addition, the proposal creates a reporting inconsistency where the reporting limit for a member of the public is 100 mrem for any other circumstances, but exposure from an airborne route must be reported if calculated above 10 mrem. What basis is there for this inconsistency? The NRC or the EPA has not provided proof that the airborne radioactivity exposure pathway is more harmful than any other mode of radiation exposure, such that a reporting "quality factor" of ten is now required.

The proposed rule is unnecessary and inconsistent with the NRC's own guidance "*Use of Probabilistic Risk Assessment in Nuclear Regulatory Activities; Final Policy Statement*" Federal Register Vol 61 August 16, 1995, Notices. Based on the studies performed by EPA, over 98% of licensees studied in the category considered by this rulemaking are already operating below 1 mrem/yr and all of the remainder are below 10 mrem/yr using the exceedingly conservative assumptions of the COMPLY code. An additional 43 facilities, which were expected to produce the highest potential exposure, demonstrated that 75% were below 1 mrem/yr and none exceeded 10 mrem/yr. Given this data, there is no basis for the proposed rule, let alone the cost of reporting.

All natural and non-byproduct radioactive materials are not within the control of the NRC to regulate. However, the new section 20.1101 does not specifically exempt anything from its regulation except ^{222}Rn. It is suggested that the phrase "licensed materials" replace "radioactive materials" in 20.1101(d).

The proposed rule neglects the cost of the rule to the licensee and time to use COMPLY as well as time spent compiling the data necessary to perform the calculations through COMPLY or other method. The cost estimates and regulatory impact conclusions are therefore not complete. The COMPLY code is not "user friendly" and must be fixed prior to the NRC recommending its use. The code, as currently configured, requires repeated entry of data and costs licensees significant time to run without any demonstrated benefit.

The regulatory guide does not provide a list of physical forms exempt from consideration such as sealed containers, syringes for patient administration, ^{99}Mo-^{99m}Tc generators, patients, etc.

The regulatory guide example contains numerous technical errors. These are as follows:

- The example sums total activity used over three separate days and then divides this sum by the room volume to get the "average concentration during 24 hours following use." Obviously this is not the average, but the sum of the concentrations for the three days. To calculate the "average annual concentration" the example then divides this value by approximately 121.5 (is this 365 divided by 3 ?) arriving at the result 7.9 E-10 µCi/ml. It then states that this result is 40 % of the Appendix B, Table 2, Column 1 limit of 2.0 E -10 µCi/ml, which it is obviously not since it is greater than that limit. This example defies analysis and neglects the EPA approved use of release fractions or of the practical aspects of occupancy times for such a situation.

- All of the release fraction criteria and guidance for use as provided by EPA in its COMPLY code is omitted from the guide. The release fractions used in the example are inconsistent with those of the EPA compliance methodology. The release fraction for iodine in liquid form is 0.001 not 1.0; i.e. one hundred percent of the material is not volatilized.

- The guide does not use an effective clearance time for the room or hallway, some air turnover is present and this has been neglected.

- The EPA regulations do not consider a member of the public to be present in the licensed facility, particularly at a laboratory door for 24 hours on three separate days.

- The commonly used terminology for the device that provides air flow and negative pressure for chemical fume hoods or glove boxes is a "fan", not a "pump."

- Licensee possession limits are not correct. The EPA used the quantities possessed over a period of one year.

We would appreciate your consideration of these critical comments on the proposed regulation.

Sincerely,

Robert A. Zoon, M.E., M.S.
Radiation Safety Officer, NIH

Shawn W. Googins, M.S., C.H.P.
Deputy Radiation Safety Officer, NIH

AF31-2-31
PDR

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USNRC

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E.I. DU PONT DE NEMOURS & CO. (INC.)
MEDICAL PRODUCTS DEPARTMENT

March 11, 1996

Nuclear Regulatory Commission
Washington, DC 20555-0001

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984)
(30)

Attn.: Docketing and Services Branch

Reference: **NRC Proposed Rule: Constraint Level for Air Emissions of Radionuclides. Federal Register. Vol. 60, No. 239. December 13, 1995. Page 63984**

These comments are submitted on behalf of NEN Products, Medical Products, E. I. DuPont de Nemours and Company. NEN Products is a major manufacturer and supplier of radioactive materials for biomedical and industrial research applications. The manufacture and use of radionuclides necessarily results in low level emissions, consequently this proposed rule applies to our facility and those of our customers. At NEN Products we have long experience in testing various models for predicting the effects of emissions and have assisted numerous customers in environmental monitoring. We are therefore in a particularly good position to judge the efficacy of regulatory requirements concerning radionuclide emission control.

As indicated in the attached comments to the EPA, we have supported the EPA proposal to rescind 40 CFR 61 Subpart I because it is an unnecessary and duplicative regulation that burdens NRC and agreement state licensees with additional costs of demonstrating compliance without any benefit to the public. We believe that the rescinding of 40 CFR 61 Subpart I and adoption of the proposed NRC constraint rule will be of some benefit because it will return regulatory control to one agency and reduce the cost of demonstrating compliance. Furthermore we recognize that the NRC has provided viable alternative methods for demonstrating compliance which could be easier to implement, give more accurate results and/or be already in place for some licensees.

However while we concede that the NRC constraint rule is preferable to dual regulations, we strongly urge that this proposal is not necessary and that current emission standards expressed in 10 CFR 20 are sufficient to assure that the public is adequately protected from licensee emissions. Furthermore current NRC regulations have the important distinction that they are compatible with International Commission on Radiological Protection and National Council on Radiation Protection and Measurements recommendations.

MEDICAL PRODUCTS DEPARTMENT
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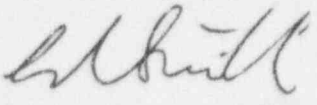
Consequently we recommend that the NRC deletes the proposed constraint rule and the EPA rescinds 40 CFR 61 Subpart I for NRC and agreement state licensees. These actions should be completed expeditiously to remove the adverse impact these burdensome requirements have on essential life saving medical and research services.

Attached are detailed comments on the proposed rule. We have also sent by separate cover comments on Draft Regulatory Guide DG-8016. We appreciate the opportunity to comment on this proposed rule and would be glad to provide clarification or further information.

Sincerely yours,



Leonard R. Smith, CHP
Radiation Protection Consultant

March, 1996

NEN PRODUCTS COMMENTS ON PROPOSED NRC CONSTRAINT RULE FOR AIR EMISSIONS OF RADIONUCLIDES

1. **Page 63985, column 3, paragraph 1.**

"Based on the...studies conducted by EPA and licensee reporting...it is evident that less than 10 mrem/yr. to the maximally exposed member of the public from air emissions is reasonably achievable."

We agree with the above conclusion. In fact licensees have been reporting to the regulators and in public comments long before the EPA conducted studies that controls were sufficient to maintain public exposures to as low as reasonably achievable below NRC limits. However the ability of licensees to control emissions is not the issue here. The concern is the cost of demonstrating compliance. Accurate radiological assessments are complex and costly exercises. While it is relatively easy to demonstrate compliance with the 100 mrem/yr. public dose limit, it becomes increasingly more difficult and expensive to demonstrate compliance with lower limits such as the proposed constraint level. Furthermore this cost does not result in reduction of emissions or any benefit to the public and has the counterproductive effect of removing finite resources from more important safety functions and increasing the cost and availability of life saving biomedical research and medical applications.

2. **Page 63985, column 3, paragraph 1.**

"The NRC is proposing to establish a constraint of 10 mrem/yr...to members of the public...as part of its program to maintain doses ALARA."

We disagree that the establishment of a 10 mrem/yr. constraint rule can be considered ALARA or will have any affect on public dose. In fact the proposed rule violates the ALARA principle because its implementation will add cost of demonstrating compliance without affecting the actual dose to members of the public. Increase cost with no benefit is not ALARA.

3. **Page 63986, column 1, paragraph 2.**

"...NRC proposes to provide a basis for rescission of [EPA] Subpart I...to constrain dose to members of the public...to 10 mrem/yr."

While we agree that one benefit of establishing a constraint rule is that it might result in the EPA rescinding Subpart I, this is not sufficient justification. The proper action that should be taken is to rescind Subpart I unconditionally. The failure of the NRC and EPA to achieve the proper result expeditiously implies that the two agencies are not capable of resolving their differences in a manner that is beneficial to the public and that further Congressional action is necessary to resolve this issue.

4. **Page 63986, column 1, paragraph 3.**

"...the licensee would be required to report the dose to NRC in writing within 30 days..."

The proposed reporting requirements and corrective actions are not justifiable considering the current status of licensee emissions. The EPA has determined that more than 99% of licensees routinely demonstrate compliance with the 10 mrem EPA limit. Furthermore it is well recognized that the reason that a few licensees can't demonstrate compliance is because the EPA requires them to use a computer program that can grossly over estimate the dose to the public from emissions. Consequently the appropriate corrective actions are likely only to involve recalculating dose and not reducing emissions that are already negligible.

A much better approach to demonstrating compliance is for the NRC to require each licensee to determine current emissions and corresponding dose initially. If the estimate adequately demonstrates compliance with current NRC limits and ALARA requirements then in subsequent years licensees should only need to demonstrate compliance when emissions have increased or other changes have occurred that could result in significant increase in off site dose. By these means licensees can assure the public that they are protected without generating an interminable quantity of redundant records every year.

E.I. DU PONT DE NEMOURS & CO. (INC.)
MEDICAL PRODUCTS DEPARTMENT

November 16, 1995

Central Docket Section LE-131
Environmental Protection Agency
Attn.: Air Docket No. A-92-50
Washington, DC 20460

Reference: Proposed EPA Rule: National Emissions Standards for Radionuclide Emissions From Facilities Licensed by the Nuclear Regulatory Commission and Federal Facilities Not Covered by Subpart H. Federal Register, Vol. 60, No. 168, September 28, 1995, Page 50161.

These comments are submitted on behalf of NEN Products, Medical Products/Imaging Systems, E. I. DuPont de Nemours and Company. NEN Products is a major manufacturer and supplier of radioactive materials for biomedical and industrial research applications. The manufacture and use of radionuclides necessarily results in low level emissions, consequently this rule applies to our facility and those of our customers. At NEN Products we have long experience in testing various models for predicting the effects of emissions and have assisted numerous customers in environmental monitoring. We are therefore in a particularly good position to judge the efficacy of regulatory requirements concerning radionuclide emission control.

As reported to the EPA in numerous comments we find EPA emission standards to be redundant and an unnecessary regulatory burden to NRC and Agreement State licensees. We therefore strongly recommend that subpart I be rescinded for NRC and Agreement State licensees without any further conditions. The proposed NRC constraint level ALARA rule will have no effect on emissions because NRC and Agreement State licensees already comply. However, duplicate EPA regulations and additional constraints make it much more complicated and costly for licensees to demonstrate compliance.

We strongly agree with the numerous EPA findings that NRC regulations have and continue to assure an ample measure of protection to the public and support the EPA proposal to rescind EPA emission standards for NRC and Agreement State licensees.

Detailed comments are attached. We thank you for the opportunity to comment on this proposed rule and would be glad to provide clarification or further comments.

Sincerely yours,

Leonard R. Smith, CHP,
Radiation Protection Consultant

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COMMENTS ON EPA PROPOSED RULE, NATIONAL EMISSIONS STANDARDS FOR RADIONUCLIDE EMISSIONS FROM FACILITIES LICENSED BY THE NUCLEAR REGULATORY COMMISSION. FEDERAL REGISTER, VOL. 60, NO. 188, SEPTEMBER 28, 1995, PAGE 50161.

1. **Page 50161, column 3, paragraph 2.**

   "On December 1, 1992, EPA proposed to rescind 40 CFR part 61 subpart I..."

   We believe that it is important that the public is amply protected from airborne emissions of all potentially hazardous materials. We support regulations that are effective in assuring public protection. We are aware that regulations promulgated by the Nuclear Regulatory Commission (NRC) have provided ample protection in the past and provide ample protection now. The EPA's 40 CFR part 61 subpart I serves no useful purpose, is duplicative and should therefore be promptly rescinded.

2. **Page 50161, column 3, paragraph 3.**

   "This document reaffirms the EPA proposal to rescind subpart I for NRC and Agreement State Licensees..."

   We agree that subpart I should be promptly rescinded to remove a duplicative, costly and unnecessary regulatory burden that provides no benefit to the public.

3. **Page 50161, column 3, paragraph 3.**

   "[the EPA] invites additional comment on the sufficiency of the revisions of the NRC program to support the finding required by Section 112 (e) (9)."

   On October 1984 and December 15, 1989 the EPA published in the Federal Register their finding that the current NRC regulations already assured an ample margin of safety to the public. At that time NRC regulations required emissions to be controlled to limit public dose to 500 mrem in any 12 month period. The NRC also required licensees to have adequate radiation protection programs which in practice further limited emission to as low as reasonably achievable (ALARA) below the limits. The 500 mrem limit and ALARA practices were effective in ensuring that actual public doses were far below 500 mrem per year and generally far below EPA standards of 10 and 3 mrem per year.

Furthermore since 1994 NRC and Agreement States have promulgated a lower public dose limit of 100 mrem per year and have made ALARA a requirement. Past licensee performance and more restrictive NRC requirements are more than sufficient to assure ample protection of the public.

4. **Page 50163, column 2, paragraph 1**

"When the results for the survey were statistically extrapolated to the entire population of NRC and Agreement State licensees, EPA concluded that virtually all of the facilities would cause doses to members of the public which are below 10 mrem/year."

While we agree with EPA's conclusion, it is clear that the EPA finding has understated the case. The EPA uses the COMPLY computer program to estimate doses to the public. The COMPLY code is simply a sequence of screening programs that can be used with various degrees of conservatism to demonstrate compliance with the EPA's standards. The code is not constructed to accurately determine public doses but instead makes estimates that have been shown to be much higher than indicated by more accurate methods.

This problem of overestimating public doses is exacerbated due to most small licensees with low emissions not having detailed measurements necessary to use the higher levels of the code. Instead these licensees must use lower levels of the code which grossly exaggerate public doses. Doses estimated by this method have been shown to be billions of times higher than actual doses. Consequently EPA's survey is based on dose constructions that are orders of magnitude higher than actual doses. The actual protection assured by current NRC and Agreement State licenses is orders of magnitude greater than that implied by the EPA's survey.

5. **Page 50164, column 1, paragraph 1**

"EPA concluded that there was no element in the NRC regulatory program which expressly required or assured that licensees...would maintain emissions below the 10 mrem/yr. EPA standard."

We disagree with this conclusion. The EPA's own survey showed that 18,000 licensees are in compliance with the standard. When adjustments are made for the tendency of the COMPLY code to overestimate, the survey shows that licensees are far below the EPA standard. That licensees comply with EPA and NRC standards is to be expected. Generally licensees do not possess enough radioactive material to cause significant public exposure through emissions. In these circumstances the public is adequately protected and regulations are redundant.

6. **Page 50164, column 8, paragraph 3.**

"the ALARA" constraint level" rule [is to be] a matter of Division Level 2 compatibility..."

The EPA seeks assurance from the NRC that licensees in Agreement States will be subject to the same emission standards as the NRC licensees. However the EPA already has this information. NRC has always required Agreement States to be strictly compatible with NRC in limiting public dose. The EPA has not shown that licensees in Agreement States are less able to comply with the emission standard than NRC licensees.

7. **Page 50165, column 2, paragraph 3.**

"Out of the thousands of licensees subject to the standard, only 16 facilities are presently reporting radionuclide emissions exceeding the EPA standard, and EPA expects that most of these reported violations will be resolved through EPA approval of adjustments in the COMPLY methodology for calculating doses."

This statement implies that licensees exceed the emission standard and the EPA accepts this. However we are aware that some licensees are unable to demonstrate compliance because the COMPLY code grossly overestimates the dose. In otherwords these licensees are in full compliance with the standard but EPA's prescribed methods for demonstrating compliance are not accurate. This is a clear indication of the counterproductive nature of the EPA radionuclide emission standards. The time that a licensee's health physicist must spend in resolving such issues with the EPA is time removed from activities that can improve the control of radioactive material. When the EPA emission standards were implemented for NRC and Agreement State Licensees in 1992 licensees were already in compliance with the standard and did not need to change practices to reduce emissions. However, the new standards greatly increased the cost and complexity of demonstrating compliance. Hence EPA regulations have increased costs without any benefit to the public.

8. **Page 50165, column 3, paragraph 5.**

"(1) If NRC adopts the proposed ALARA constraint level rule, will the resultant C regulatory program assure that routine radionuclide emissions from NRC licensees...result in doses which are consistently and predictably no greater than 10 mrem/year?"

Current NRC regulations already assure that public doses are consistently and predictably below 10 mrem/year. Furthermore public doses are generally far below 10 mrem/year. NRC and Agreement State regulations have provided sufficient

protection to the public. EPA regulations and the proposed NRC constraint rule will not provide any further benefit to the public but simply increase the regulatory burden on licensees.

9. **Page 50165, column 3, paragraph 6.**

"(2) If NRC adopts the proposed ALARA constraint level rule, will NRC have sufficient authority to require affected facility with routine radionuclide emissions at a level which results in a dose exceeding 10 mrem/yr. to reduce its emissions to a level resulting in a dose no greater than 10 mrem/year?"

The NRC already has sufficient authority to rule that such emissions are not ALARA and to impose license conditions to further restrict emissions. The proposed ALARA constraint level rule is redundant, serving the same purpose.

10. **Page 50165, column 3, paragraph 7.**

"(3) If NRC makes the proposed ALARA constraint level rule a matter of Division Level 2 compatibility, will this assure that each individual Agreement State establishes an ALARA constraint level for its licensees which is no greater than 10 mrem/yr., and requires it licensees to report and correct exceedances of that level?"

Agreement State rules that are classified as Division Level 2 compatibility must be strictly compatible with NRC rules. Agreement States are currently required to implement regulations to protect the public that are strictly compatible with NRC Regulations. There is already ample assurance that licensees in individual Agreement States comply with the proposed ALARA constraint level.

11. **Page 50165, column 3, paragraph 8.**

"(4) Are the NRC policies establishing criteria to evaluate the adequacy and compatibility of Agreement State programs, and adopting procedures to permit suspension of termination of Agreement State programs, sufficient to enable NRC to take necessary action if it determines that an Agreement State program is inadequate or incompatible?"

NRC currently has the authority to suspend Agreement State programs that are inadequate or incompatible and has exercised this authority in the past. Current NRC policies do not change this status.

12. **Page 50166, column 1, paragraph 2.**

"(5) Do these four actions, in addition to other actions taken by NRC combine to provide an ample margin of safety to protect public health."

The EPA has on several occasions shown that the public is protected with an ample margin of safety. This condition was determined when the only regulation was the NRC 500 mrem/yr. public dose limit. It still applies now under the NRC 100 mrem/yr. limit and ALARA requirements. Neither the above four actions nor the EPA standard will significantly increase public protection because current practices already result in exposures well below the proposed constraint level It is, however, necessary that the EPA standard and proposed NRC constraint level be promptly rescinded. What is needed is one regulation that implements the International Commission on Radiological Protection (ICRP) and National Council on Radiation Protection and Measurement (NCRP) recommendation to constrain public dose to below 100 mrem per year. ICRP and NCRP recommendations are respected for their ability to provide the necessary protection to the public. The EPA standard and proposed NRC constraint level should be rescinded to remove a costly regulatory burden from licensees who manufacture and use radionuclides in biomedical research and medicine. This is especially important since these unnecessary costs severly impact patients who rely on life-saving radiopharmaceutical procedures.

AF 31-2-32
PDR

New York State Department of Environmental Conservation
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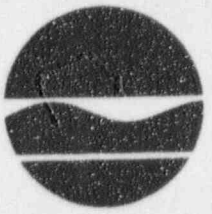
MAR 12 1996



Michael D. Zagata
Commissioner

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR69984)
(31)

Rules Review and Directives Branch
DFIPS
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Docketing and Services Branch
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Addressees:

Re: 10 CFR 20, Proposed Rule, *Constraint Level For Air Emissions of Radionuclides*

Draft Regulatory Guide DG-8016, *Constraints for Air Effluents for Licensees Other than Power Reactors*

The New York State Department of Environmental Conservation has reviewed the United States Nuclear Regulatory Commission's December 7, 1995 (NRC) Notice of Proposed Rulemaking (NPR) on the Constraint Level for Air Emissions of Radionuclides 10 CFR Part 20 and the Draft Regulatory Guide DG-8016 (Proposed Revision 1 to Regulatory Guide 8.37), *Constraints For Air Effluents For Licensees Other Than Power Reactors.*

In response to both proposals, we recommend that the NRC evaluate better the alternative of leaving the responsibility for implementing Subpart I with the EPA. We understand the long history of the EPA's duplicative regulation of emissions from NRC and Agreement State licensees, and we agree that it would be desirable to eliminate it. However, this proposed rule appears to merely transfer to NRC the EPA's role in imposing a new dose limit on radioactive materials licensees.

As explained in more detail in our enclosed comments, the proposed "constraint" appears to be a dose limit in all but name. Yet, there will be no health and safety benefit from this

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regulation. Both the EPA and the NRC have acknowledged that almost all facilities will meet this "constraint." In its September 28, 1995, *Notice of Reopening of Comment Period*, the EPA stated, " EPA concluded that virtually all of the facilities would cause doses to members of the public which are below 10 mrem/yr." [60 FR 50163] In the NPR, the NRC supports its NEPA Finding of No Significant Impact, in part by stating, "Actual air emissions are not expected to change."

The NRC estimates that licensees will have to devote an average of 80 hours to meet the reporting requirements of this proposed rule. NRC also proposes to make this a Division 2 rule, forcing Agreement States to spend their own scarce resources on adopting a rule that will have no effect on the environment or public health and safety. Since the EPA is already administering this program under its own existing regulations, and there is no public health benefit to be gained, we question whether this rulemaking should be undertaken. At the least, the NRC should explain in the NPR the benefit of adopting this rule compared to leaving the existing EPA program in place.

Our detailed comments are enclosed. Please call me if you have any questions.

Sincerely,

Paul J. Merges

Paul J. Merges, Ph.D., Chief
Bureau of Pesticides & Radiation
Division of Solid & Hazardous
Materials

Comments of the New York State
Department of Environmental Conservation
on
10 CFR 20, Proposed Rule, *Constraint Level For Air Emissions of Radionuclides*
and Draft Regulatory Guide DG-8016, *Constraints for Air Effluents for Licensees Other than Power Reactors*

March 12, 1996

INTRODUCTION

The NRC is proposing to revise two sections of 10 CFR 20: Section 20.1101, *Radiation protection programs*, and Section 20.2203, *Reports of exposures, radiation levels, and concentrations of radioactive material exceeding the limits.* These Sections are to be expanded to incorporate new requirements for a 10 mrem "dose constraint."

The new proposed Section 20.1101(d) would require materials licensees to constrain air emissions of radioactive materials (other than radon-222) so that a member of the public would not receive a dose in excess of 10 mrem/yr total effective dose equivalent (TEDE). A licensee exceeding the proposed dose constraint would be required to report the exceedance to the NRC under the new proposed Section 20.2203(a)(2)(vi) and to promptly take corrective actions to ensure against recurrence. Draft Regulatory Guide DG-8016 identifies those methods acceptable to NRC for implementing the proposed rule.

GENERAL COMMENTS

1. The NRC has not yet finalized its compatibility policy for Agreement States, yet at the same time has made it clear that this rulemaking will be designated as a Division 2 rule (i.e., Agreement States must adopt a rule that is at least as stringent as NRC's rule). Since NRC has apparently decided to make this rule a Division 2 (or its equivalent) compatibility matter, NRC should have provided Agreement States with the opportunity to participate in its development at an earlier stage. For example, NRC could provide states with a draft of the proposed rulemaking prior to publishing the NPR in the Federal Register. In addition, NRC should give additional weight to comments submitted by Agreement States. NRC has verbally committed to both approaches during past Agreement States' meetings.

2. It is not clear whether the NRC will allow licensees to exceed the dose constraint if they have taken appropriate steps to keep their emissions as low as reasonably achievable (ALARA). Both the NPR and DG-8016 do not appear

to allow for such a situation. According to DG-8016, a constraint is a dose value "above which specified licensee actions are required." Those required actions include reporting and taking appropriate and timely corrective actions to prevent recurrence, or else NRC will take an enforcement action. The NPR states that a Notice of Violation would be issued upon licensee failure to report the exceedance and/or failure to institute appropriate measures to correct and prevent recurrence. This language implies that any exceedance of the proposed dose constraint, coupled with failure to take appropriate corrective action, will be treated as a violation. Hence, a corrective action that does not ensure that the constraint will not be exceeded -- even if that action ensures that emissions will be maintained ALARA -- apparently will not be deemed an adequate corrective measure by NRC. It appears that the dose constraint is a requirement and, therefore, a de facto limit.

3. The word *constraint* is a poor choice of words. Webster defines constraint as "something that restricts, limits, or regulates." This definition, however, appears to contradict the NPR and DG-8016, which state that a constraint is not a limit. To reduce confusion, the NRC should use a different word or phrase. Examples: action level, reference level, ALARA goal, etc.

   In 10 CFR 50, Appendix I sets ALARA guidelines for many different sources from nuclear power plants, including gaseous and airborne particulate discharges. Contrasted to "constraint level," Appendix I uses the term "design objectives and limiting conditions for operation." Of note, however, is the value proposed for the ALARA level. Appendix I to 10 CFR 50 limits the dose due to releases of airborne particulates to 15 mrem/year to any organ, and the dose due to gaseous effluents to 5 mrem/year to the total body and 15 mrem/year to the skin. NRC should not contribute to the proliferation of different dose limits for different types of facilities.

   If NRC intends to establish a new public dose limit, the new limit should be codified in Section 20.1301.

4. The explanatory language in the NPR and DG-8016 suggests that NRC believes the proposed dose constraint would only be exceeded under atypical operating conditions (i.e., accidental or higher-than-expected radioactive air emissions, equipment failure, or operator error). In fact, on page 3, DG-8016 states that "NRC believes that the constraint level . . . is easily achievable by NRC materials licensees." However, the draft guide also states that "It is understood that the constraint dose could be approached

routinely (page 3)." These appear to be contradictory. Instead of making the proposed dose constraint a de facto limit, NRC could designate the dose constraint as an "ALARA goal." Rather than require licensees' corrective actions to "ensure against recurrence," NRC could instead require that licensees' corrective actions "ensure that emissions are maintained ALARA." To implement this approach, NRC should change the last sentence of the proposed Section 20.1101(d) to read, " . . . the licensee shall . . . promptly take appropriate corrective actions to ensure that emissions are ALARA." Likewise, the proposed Section 20.2203(a)(2)(iv) should be reworded to include the statement, " . . . corrective steps taken or planned to ensure that emissions are ALARA when constraint levels have been exceeded."

6. We find that NRC's proposed dose constraint for air emissions of radioactive material is a reasonable goal. However, NRC has not presented the dose constraint proposal as an ALARA goal, but rather as a de facto limit. For the reasons presented above, NRC should revise the NPR and DG-8016 to clarify that the dose constraint is an ALARA goal, not a limit. By doing so, NRC would confirm that it is not lowering the current public dose limit of 100 mrem/yr, which should lesson public confusion about the adequacy/safety of the current 100 mrem/yr public dose limit.

SPECIFIC COMMENTS on NPR

7. The language proposed to be added to 10 CFR 20 appears to treat identified exceedances of the dose constraint (even when reported as required) as a violation of a standard if not corrected to prevent recurrence. Why will licensees be required, by regulation, to prevent the recurrence of a failure to meet a standard that has clearly been described as "not a limit"? How will the NRC ensure compliance with something that is not a limit?

8. The proposed 10 mrem/yr dose constraint contradicts NRC's previously stated ALARA philosophy. The NPR states that " . . . the rulemaking proposed would codify numerical values for application of ALARA guidelines . . . ". However, during the last major revision of 10 CFR 20, a published public comment requested that the NRC institute "reference levels" for licensee action. The NRC responded to that comment as follows:

> *...if the NRC were to specify generic reference levels for licensee action, the impact might be similar to lowering the magnitude of the dose limits. The Commission believes that the use of the ALARA philosophy is a preferable means to keep exposures well*

below the limits established by the Commission.

It appears that the NRC has modified its ALARA philosophy to define and codify what is ALARA. However, no explanation for this change was given in either the NPR or DG-8016. NRC should provide an explanation for this apparent change.

SPECIFIC COMMENTS on DG-8016

9. According to DG-8016, the draft guide deals with controlling doses resulting from the release of air effluents to levels below the proposed 10 mrem dose constraint. However, it is not clear where air effluents must be controlled to meet the proposed dose constraint - does this mean in uncontrolled areas inside and/or outside of a licensed facility? It is unclear if the dose constraint is to be limited to effluents outside the facility (e.g., in the environment), because the one example given in DG-8016 dealt with air effluents to an uncontrolled area inside the facility.

   The final regulatory guide should clearly define where radioactive air effluents must be controlled to ensure that public doses are less than the proposed 10 mrem/yr dose constraint.

10. Appendix A to the Draft Regulatory Guide contains a mathematical error. Appendix A is a sample report of an exceedance of the 10 mrem/year "constraint level." The average annual concentration of I-131 discharged to the air from the facility is stated as 7.9×10^{-10} μCi/ml. It is then stated that this annual average concentration is 40% of the 10 CFR 20 Appendix B, Table 2, Column 1 value of 2.0×10^{-10} μCi/ml, and that this would yield a dose of 20 mrem/year. 7.9×10^{-10} is actually 395% higher than the Table 2 value, and the resulting dose would be 197.5 mrem/year. It is possible that the annual average concentration should have been printed as 7.9×10^{-11} μCi/ml, in which case the percent and dose estimate are correct.

Thank you for the opportunity to comment on the Notice of Propose Rulemaking on the new constraint level and Draft Regulatory Guide DG-8016. We are hopeful that NRC will give full consideration to our comments on the proposed rule and guide, as well as our comments regarding the lack of opportunity for Agreement States participation in the development of this proposed rule.

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PDR

DOCKETED
USNRC

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection
CN 402
Trenton, NJ 08625-0402

Robert C. Shinn, Jr.
Commissioner

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OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

March 7, 1996

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984) (32)

Docketing and Services Branch
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
re: RIN 3150-AF31:

The following are the comments of the State of New Jersey, Department of Environmental Protection concerning the proposed constraint level for air emissions of radionuclides in Federal Register, Vol. 60, No. 239, pp. 63984-63987.

The New Jersey Department of Environmental Protection (the Department) has supported the U.S. Environmental Protection Agency's (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAPs) in the past, and still agrees that the EPA 10 millirem (mrem) annual dose limit is protective of the public health. The Department also considers the specific hierarchical methods set forth in 40 CFR 61 for determining compliance with this limit to be scientifically sound. The Department is concerned with the proposed U.S. Nuclear Regulatory Commission's (NRC) changes to 10 CFR 20 for several reasons. We are particularly interested in possible changes to the current regulatory position because there are a number of facilities (predominantly radiopharmaceutical companies, hospitals, research and academic institutions) located in populated areas of New Jersey which have the potential for emission of radionuclides.

Since the EPA has established the 10 mrem/year limit to meet the "ample margin of safety" requirement of the Clean Air Act (CAA), it is clear that the NRC regulatory program must assure that routine radionuclide emissions result in doses which are consistently and predictably no greater than 10 mrem/year. The Department is of the opinion that the proposed NRC regulatory program will be sufficient only when the proposal satisfactorily addresses the following issues.

1) In limiting the total effective dose equivalent (TEDE) to 10 mrem/year, the EPA considers a number of potential exposure pathways due to air releases; i.e., inhalation, immersion, external exposure from ground deposition, and internal exposures from resuspension and the vegetable, milk, and meat pathways. The proposed NRC regulatory method for determining compliance with air derived dose limits allows for the use of 10 CFR 20,

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Appendix B, Table 2 which was derived by evaluating only the immersion and inhalation pathways for air emissions. The proposed NRC constraint rule can therefore significantly underestimate the actual radiation dose delivered to an individual. Even if the NRC allowed concentrations are reduced by a factor of 5 to represent a "numerical" 50 mrem/year to 10 mrem/year reduction, the resulting air concentration values still are significantly higher than the allowed air concentration values in the current EPA NESHAP rule (40 CFR 61, Appendix E, Table 2) as shown in Enclosure 1.

If the dose to a member of the public is calculated correctly (utilizing all potential pathways) from the allowed concentrations in the scaled down NRC Table 2, the 10 mrem annual limit is actually exceeded by significant factors. The proposed NRC effluent concentrations still do not provide the same level of protection of human health and the environment as do the current EPA concentrations. Therefore, the proposed rule cannot be considered to be equivalent to the existing EPA rule.

2) The NRC currently requires licensees to take actions to further reduce risk below the dose limits in keeping with the principle that exposures should be as low as is reasonably achievable (ALARA). This is an NRC intended goal for radiation protection programs. In Regulatory Guide 8.37, "ALARA Levels for Effluents from Materials Facilities," it is maintained that if the licensee chooses to demonstrate compliance with the dose limit by calculating the TEDE, all significant environmental pathways should be evaluated. Further reference is made to NCRP Commentary No. 3, "Screening Techniques for Determining Compliance with Environmental Standards" for use in dose calculations. This publication includes the use of all pathways in its calculations. Unfortunately, the use of Regulatory Guide 8.37 is not a requirement for determining compliance with the 10 mrem/year limit and the licensee is still free to use Appendix B, Table 2 to demonstrate compliance.

Even though Draft Regulatory Guide DG-8016 (Proposed Revision 1 to Regulatory Guide 8.37) contains the EPA COMPLY computer code as an acceptable method for determining compliance with the constraint, the Department believes that regulatory language requiring the use of all relevant pathways as an essential part of determining compliance with the dose limit should be included in the NRC rule. This would involve adoption by the NRC of the EPA COMPLY code or other equivalent code directly in the rule. A tiered regulatory procedure, perhaps similar to EPA's, would provide confidence that the 10 mrem annual dose limit was not exceeded.

3) The NRC should adopt consistent implementing procedures for determining compliance with its established dose limits. The method of determining compliance with the dose limits in 10 CFR 20 is not consistent with that of 10 CFR 50, Appendix I, which considers all pathways.

4) There is no discussion or mention of why the EPA sublimit of 3 mrem/year for radioiodines was not included in the proposed rule. The NRC rule should include the EPA's sublimit of 3 mrem/year for radioiodines or explain why this limit has been deleted. Again, the proposed rule can significantly underestimate the actual radiation dose delivered to an individual for this series of biologically important radionuclides.

If the NRC adopts a rule including a provision to make emissions exceeding 10 mrem/year a reportable event, the Department believes that the NRC will have sufficient authority to require a facility to reduce its emissions. However, this proposal is rendered ineffective at the outset because, as stated above, NRC has not required to date a consistent, scientifically valid methodology for a licensee to define when the 10 mrem limit is being exceeded. Additionally the public's recourse to compel compliance would be substantially narrowed under NRC rules as contrasted with the citizen suit provisions under the CAA (Sec. 304).

To summarize, the Department believes that the NRC rule proposal does not provide the required legal and regulatory equivalence of the EPA program. The NRC program apparently will continue to allow regulatory use of its Appendix B, Table 2 that may, depending on the nuclide, significantly understate actual dose received, and does not yet provide for a consistent clear method to calculate and thus report exceedences of the 10 mrem level.

In order to address these issues, the Department believes that, at a minimum, the NRC should either recalculate the values in 10 CFR 20, Appendix B, Table 2 to include all relevant pathways, or disallow use of this table to demonstrate compliance with the 10 mrem/year requirement, and instead require the use of the COMPLY or an equivalent computer code. In addition, NRC needs to establish consistent regulatory procedures and parameters for licensees to use in estimating the dose received.

Thank you for the opportunity to comment. If there are any technical questions pertaining to our comments please contact Dr. Jill Lipoti, Assistant Director for Radiation Protection Programs at 609-984-5520.

Sincerely,

Robert C. Shinn, Jr.
Commissioner

Enclosure

Enclosure 1

Comparison of Allowed Air Concentrations Under Proposed 10 CFR 20 Revisions and 40 CFR 61			
Nuclide	NRC* 10 CFR 20 (pCi/m^3)	EPA** 40 CFR 61 (pCi/m^3)	Ratio of 10CFR20:40CFR61
^{3}H	20,000	1,500	13
^{14}C (compounds)	600	10	60
^{125}I	60	0.13	460
^{32}P (as phosphates)	100	0.3	330
^{35}S (elemental)	600	1.3	460
^{45}Ca	200	1.3	150
^{51}Cr	12,000	31	390
^{99}Mo	800	14	57
^{99m}Tc	60,000	1,700	35
^{131}I	40	.21	190
^{133}Xe	120,000	63,000	1.9
^{90}Y	180	13	14

*Current values in 10 CFR 20, Appendix B, Table 2 reduced by a factor of 5
**Current values in 40 CFR 61, Appendix E, Table 2

AF31-2-34
PDR

SIERRA CLUB

Pennsylvania Chapter

P.O. Box 606
Harrisburg, PA 17108

Reply to:

Committee on Radiation
and the Environment

March 11, 1996

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

ATTN: Docketing and Services Branch

1. For the Pennsylvania Chapter of Sierra Club, the Committee on Radiation and the Environment (CORE) submits these comments on NRC Proposed Rule entitled "Constraint Level for Air Emissions of Radionuclides." The NRC suggests that the main purpose of the rule is to eliminate duplicative regulations. The Chapter's CORE believes that this proposed NRC guidance will have far more serious impacts that relate to health, safety, and environmental protection.

2. We cannot support the constraint level as it has been proposed at Code of Federal Regulations, vol. 60, no. 239, p. 68984ff, December 13, 1995, for reasons detailed below. We ask that these comments be included in the record and given full consideration by the Commission. We also request that NRC extend the comment period. Publication of this proposal in mid-December meant that the Federal Register was not timely received and available to the public due in part to Federal government shut-down and in part to winter weather that interfered also with our scheduled Chapter meetings. Thus, affected Sierra Club members have only begun to learn of this issue at our March 9-10 Chapter meeting. We ask for a 60-day extension. The EPA NESHAPS issues have been in process for a decade; most of the radionuclides in question will remain; no unreasonable burden will be imposed on any party by such an extension.

3. Commenters' Interest: In the Commonwealth of Pennsylvania, there are many dozens -- some hundreds -- of nuclear production, utilization, treatment, storage, and, at least potentially in the future, waste disposal facilities that are and will be affected by this proposed rule. Sierra Club Chapter members reside and work in the immediate vicinity of some of these facilities or are located in downwind sectors that are or will be affected by air emissions from one or more of these sites.

4. The NRC constraint level rule was developed in response to the Environmental Protection Agency's unwillingness to relinquish its Clean Air Act authority to set air emissions standards for radionuclides for all NRC- and Agreement State-licensed facilities other than nuclear power reactors, certain Federal facilities, those possessing only sealed sources or emitting Radon-222, remediated uranium mill tailings piles, and high-level waste repositories (if any are eventually built and operated). EPA's reluctance was based on its uncertainty that NRC would assure that these non-reactor nuclear facilities could and would consistently meet the Court-ordered EPA tests of "acceptable risk" and "ample margin of safety to protect the public health," allowing air emissions that result in doses to members of the public at or below the 1989 EPA NESHAPS limit of 10 millirem per year effective dose equivalent.

The Sierra Club CORE must conclude that NRC cannot now provide an adequate assurance to EPA so long as the nuclear facility licensees are allowed to report their emissions without any independent monitor or measurement. Moreover, because the NRC does not do direct measurement of doses received by offsite individuals, it is impossible for EPA to confirm whether or not its 10 mrem/yr NESHAP standard is currently being met. We conclude, therefore, that the "ample margin of safety" has not been shown by NRC.

5. The constraint level proposed by NRC is also 10 mrem per year total effective dose equivalent, but this limit is to be used in conjunction with the NRC's As Low As Reasonably Achievable (ALARA) program. Our objection lies in the indisputable fact that NRC's ALARA program is not a required regulation; its application by NRC is discretionary, and may or may not be enforced, whereas EPA is required under the Clean Air Act to promulgate NESHAPS standards that must be met by a licensee.

6. The Clean Air Act allows citizens to file law suits if EPA fails to enforce its promulgated standards. The NRC's Part 2 regulations that govern citizen suits and the right to appeal do not provide this capability in the event that the NRC fails to enforce its regulatory guidelines. The constraint rule does not state clear provision for citizen law suits. Courts have thus far not found that NRC's Part 2.206 lets citizens challenge Commission decisions. The constraint rule, like the ALARA program, is not a mandatory limit; it is only guidance to licensees. An unenforceable guidance, or recommendation to a licensee provides no grounds for litigation.

7. The wording of this proposed rule suggests merely that the licensee must report to NRC if its air emissions exceed the limit for a calculated TEDE to a member of the public and describe its plans to improve its performance and meet the ALARA constraint level in the future. The Sierra Club CORE believes that this is not adequate to assure protection of public health and safety or environmental quality from unacceptable radiation exposures.

8. The ability of NRC to exercise sufficient regulatory authority in the future has been cast in doubt by Congressional proposals to limit or eliminate regulatory authority of Federal agencies, without clear distinctions drawn among the agencies with respect to the impacts on health and safety or the environment. Similarly, Agreement States -- all states -- are also feeling the pinch of declining funds to devote to stringent regulation of nuclear facility licensees (and others, as well). The lack of certainty of assured regulation, inspection, and enforcement at all levels of government militates against reliance on NRC's proposed ALARA constraint level guidance.

9. The Sierra Club CORE must conclude that this NRC proposal is not drawn rigorously enough to assure that the resultant health risks will acceptable to our affected members or that a discretionary ALARA constraint level guidance will in the future provide and continuously provide a margin of safety that is ample, i.e., well below the maximum air emission dose level permitted by the EPA NESHAP standard.

For these reasons, among others, we ask that the NRC revise this ALARA-related 10 mrem/yr TEDE constraint level to accomplish the following:

a. Set a mandatory regulatory limit which must be enforced and which is equal to or more restrictive than the EPA's 1989 NESHAP air emission standard for radionuclides.

b. Set forth in the regulation the requirement for continuous actual dose measurement of members of the public who, according to their location and to micro-meteorological conditions, may reasonably be expected to receive the highest doses.

c. Clarify conditions under which EPA can and must reclaim its authority to set Clean Air Act NESHAPS air emissions standards for radionuclides

d. Require an independent entity to monitor the accuracy of air emissions data submitted by licensees.

e. Stiffen NRC rules for issuance of violations, setting of monetary penalties (with rebuttable presumption that clearly placing burdens of proof on the licensee, collection of all financial penalties assessed without waivers or reductions, and rigidly enforce all regulations, including license suspensions and revocations for repetitive violators.

The Sierra Club Pennsylvania Chapter CORE urges NRC to adopt, at minimum, the recommendations outlined above.

Respectfully submitted,
P. Gilbert and J. Johnsrud, Co-Chairs
Sierra Club Pennsylvania Chapter
Committee on Radiation and the Environment

I certify that these comments were deposited in the U.S. mail, first class, postage paid, on this 12th day of March 1996
Judith A. Johnsrud

5000 Dominion Boulevard
Glen Allen, Virginia 23060

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PDR

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VIRGINIA POWER

March 12, 1996

U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Serial No. GL 95-087
NL&OS/EJL

ATTN: Docketing and Services Branch

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984) (34)

Dear Sir:

PROPOSED RULE - 10 CFR PART 20
CONSTRAINT LEVEL FOR AIR EMISSIONS OF RADIONUCLIDES
FEDERAL REGISTER / Vol. 60, No. 239 / DECEMBER 13, 1995 / p. 63984

This letter provides Virginia Power's comments regarding the subject proposed rule. The Nuclear Regulatory Commission (NRC) is proposing to establish a constraint of 10 mrem/yr total effective dose equivalent (TEDE) for dose to members of the public from air emissions of radionuclides from NRC licensed facilities other than power reactors. This proposed rule is necessary to provide assurance to the Environmental Protection Agency (EPA) that future emissions from NRC licensees will not exceed levels that will provide an ample margin of safety. This action is expected to be the final step in providing EPA with a basis upon which to rescind its Clean Air Act (CAA) regulations for NRC licensed facilities (other than power reactors) and Agreement State licensees, thereby relieving these licensees from unnecessary dual regulations.

We agree with the objective of the proposed rule - to eliminate unnecessary dual regulations, and agree that the proposed rule will help accomplish this objective. However, it appears that some clarification would appear to be warranted. More specifically, it is not clear whether or not the general exclusion that the proposed rule provides to power reactors would also apply to an Independent Spent Fuel Storage Installation (ISFSI) that is located on the same site with a power reactor, especially since there are typically no air emissions of radionuclides associated with the operation of an ISFSI. It would be very helpful if the rule and the statements of consideration explicitly addressed how the rule applies to ISFSIs that are located on the same site as commercial power reactors.

Additionally, we fully endorse the comments sent separately to the NRC by the Nuclear Energy Institute. We appreciate the opportunity to provide comments on this proposed rule.

Very truly yours,

M. L. Bowling

M. L. Bowling, Manager
Nuclear Licensing & Programs

9603210067 ZAP

cc: Mr. Ralph Anderson
Project Manager, Radiological Protection, Emergency Preparedness, and
Waste Regulation Department
Nuclear Energy Institute
1776 I Street N.W.
Suite 400
Washington, DC 20006-3708

AF 31-2-36
PDR

SIERRA CLUB

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984)
(35)

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BRANCH

NATIONAL NUCLEAR WASTE TASK FORCE

March 12, 1996

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

In the Matter of: 60 FR 63984

ATTN: Docketing and Services Branch FAX: 301-415-1672

As a member of the Sierra Club National Nuclear Waste Task Force, I am asked to submit comment on behalf of the Task Force on the NRC's Proposed Rule "Constraint Level for Air Emissions of Radionuclides." This matter is of significance for members of the Sierra Club who live or work near nuclear facilities, nationwide, and who will be affected by promulgation of this rule.

We recognize the potentially positive gain for protection of the public from an enforceable NRC regulation that will reduce the level of radioactive air emissions to the environment. However, we regret that this proposed rule has not been posed in a way that guarantees that actual doses received by individual members of the public offsite will in the future conform with the requirements that the Environmental Protection Agency (EPA) must meet before the Administrator may relinquish EPA's statutory duty imposed by the Clean Air Act to promulgate air emission standards for radionuclides.

The Task Force recommends that NRC withdraw this proposed rule. At the minimum, the rule should be revised to provide for promulgation of an air emission standard for exposure of members of the public from radionuclides that is *mandatory and must be rigorously and consistently enforced by the NRC*, rather than a constraint level that is simply a regulatory guidance with which a licensee may or may not properly comply, and may or may not be charged with violation or penalized by the regulator.

An NRC constraint level air emission and dose limit designed to operate with the ALARA program must set an enforceable maximum dose to a member of the public that not only sometimes meets the EPA's NESHAPS standard of 10 mrem/yr EDE but results in a certainty that an ample margin of safety is truly achieved by requiring facility operations that reduce air emissions well below the 10 mrem/yr TEDE that NRC proposes as guidance. The reason for this reduction is to assure that the margin of safety will be ample -- that is, well below the level set as a maximum by EPA in its 1989 NESHAP standard for radionuclides.

The NRC must also make unequivocal provision for citizen litigation in the event that the ALARA constraint level is not met. The current situation would preclude appeal to courts, in part because the only avenue is NRC's 2.206 provision and in part because it is impossible to mount an effective challenge to a limit that is merely a guideline that a licensee is not required to meet.

Actual measurement of doses to actual people is sorely needed: NRC should incorporate such a program into a mandatory program of ALARA with constraint level. The NRC should also initiate and require a program of independent continuous measurement of air releases from nuclear facilities to replace the NRC's present system that permits licensees to provide the data without any independent monitoring of the accuracy of what they submit to NRC.

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When the NRC issued construction permits for nuclear production and utilization facilities, the applicants had to demonstrate (or promise) that their designs were capable of maintaining routine radioactive releases at a level that results in a maximum dose to a member of the public that is no greater than 5 mrem/yr. This was called a "design basis release."

In view of all that has subsequently been learned about the adverse health effects of low-dose irradiation and protracted or repetitive low-dose exposure, it would now be prudent for the NRC to make that dose limit mandatory for all nuclear facility licensees. This is a reasonable regulatory position for the NRC to adopt, since the agency has claimed to EPA that its licensees' releases already are giving doses to the public that are within one to three mrem/yr of that level.

It is, after all, on the basis of this NRC assurance that EPA is proposing to rescind its NESHAPS standards-setting authority under the Clean Air Act and turn over that authority to NRC. Now NRC must take the necessary steps to be certain that the margin of safety is consistently met by all, not just some, licensees, state and federal, at all times in the future. The best way to do so is to require by regulation, not mere guidance, the conservative dose limit we are recommending, along with the additional safeguards of independent monitoring and measurement of emissions and doses received.

The recommendations that we offer relate directly to the protection of public health and safety and quality of the environment with respect to the problems of isolating radioactive wastes from the biosystem for their very long periods of biological toxicity. That task has proven far more difficult than NRC, Agreement States, Congress, and the nuclear waste industry anticipated. Waste isolation is not likely to become easier; here, too, is a strong reason for the NRC to adopt a conservative mandatory enforceable regulatory stance that is consonant with the Commission's long-standing claim of its commitment to defense in depth and redundancy of safeguards. We ask that the NRC adopt these suggestions in order to improve the protection of health, safety, and the environment that are the fundamental concerns of the Sierra Club.

Respectfully submitted by Judith Johnsrud for the
Sierra Club National Nuclear Waste Task Force /s/

I certify that this document has been placed
in the U.S. Mail, first class, postage paid,
on the 12th day of March 1996.

AF-31-2
PDR

438 Timbercrest Court
Cedarburg, Wisconsin 53012
March 6, 1996

Rules Review and Directive Branch
DFIPS
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

To Whom it May Concern:

The regulation proposed for 10 CFR 20.1101(d) should be withdrawn and allow the EPA to continue to implement the NESHAPS for the moment and then the 10 mrem/year regulation should be deleted from the EPA regulations.

The process developed by the NRC will be much more difficult to implement operationally, based on the proposed regulation. Considerable more staff time, documentation, measurement, and reporting will be required to be in compliance with the proposed regulation with no benefit to individual members of the public.

A major concern that comes out of the proposed regulation is that it implies that there is a danger associated with 10 mrem/year. Radiation exposures of 10 mrem/year do not have any significance. If the 10 mrem/year is implemented the public, and more importantly, aggressive legal and anti-technology groups, will take that number and advocate that the 10 mrem/year is a limit above which harm could result, otherwise the government would not have promulgated that as a maximum level of exposure for an individual member of the public. Since all individual events inside of a facility that could potentially expose a member of the public must be reported, it implies that harm could result from exposures exceeding 10 mrem/year.

The natural cosmic and terrestrial levels of radiation exposure, not including radon, in the U.S. ranges from a low of 63 mrem/year in Florida to a high of 142 mrem/year in Colorado. Since the difference is about 80 mrem/year, how does that give any credibility to a 10 mrem/year maximum allowed exposure to a member of the public? I have enclosed a table comparing natural radiation exposure and the rates of cancer for selected states. The states that were selected were the six with natural radiation levels above 100 mrem/year and the six that have the lowest annual exposures. The data clearly show that to reduce the risk of cancer, in general, it is better to live in a state that has an annual radiation exposure level above 100 mrem/year than one with exposures in the 60 to 70 mrem/year. An individual member of the public living in Mississippi one year and moving to Wyoming would increase their natural radiation

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exposure by just over 60 mrem/year with a reduction in the overall cancer rate from 180 down to 155/100,000 of population for the states.

Millions of members of the public will get greater that 10 mrems/year additional radiation exposure from flying the "friendly skies" at 37,000 feet during their normal travels for busines and pleasure. In about 25 hours of flying time, about 10 mrem of additional radiation exposure is accumulated. Airline staff are each individual members of the public and receive hundreds of mrem/year as they go about their normal work of getting passengers from place to place.

The regulation proposed as 20.1101(d) does not conform to the ALARA process. Recall that under ALARA we attempt to keep exposures to less than 10% of the allowed exposure. When the exposure is greater than 10% and 30%, we conduct an evaluation and if it warranted, take action, as described in Reg. Guide 10.8, Rev 2, for example. There are no reporting requirements if exposures stay below regulatory limits. The proposed regulation requires reporting if 10 mrem is exceeded, and a commitment that the 10 mrem will never be exceeded again.

The information in DG-8016 describes that compliance must be shown by calculation or measurement. By measurement it would require the use of multiple expensive ultrasensitive environmental dosimeters. Calculation using the methodology shown in Appendix A is not possible as there are errors in the methods used for the calculations. By either method compliance cost will be very high without any benefit to an individual member of the public.

Millions of individual members of the public exceed 10 mrem/year from medical procedures. Medical and dental x-rays, nuclear medicine, and radiation therapy diagnostic procedures and treatment methods result in exposures from 20 mrem to more than 20,000 mrem, many getting multiple procedures in a year.

The proposed regulation will only affect the radiation exposure of a few individual members of the public that are present in or near restricted areas inside of licensed facilities while many millions of members of the public will exceed 10 mrem/year from many other sources such as natural, medical, flying, etc.

Since an exposure of 10 mrem/year to an individual member of the public has no significance the regulation as proposed for 20.1101(d) should not be implemented.

Yours truly,

Ralph Grunewald

Ralph Grunewald, Ph.D.

SOME NATURAL RADIATION EXPOSURE AND CANCER MORTALITY RATES

STATE	EXPOSURE	CANCER	RATIO
MONTANA	105	161	1.53
IDAHO	106	148	1.4
UTAH	114	125	1.1
NEW MEXICO	125	146	1.17
WYOMING	126	155	1.23
COLORADO	142	148	1.04
FLORIDA	63	167	2.65
LOUISIANA	64	193	3.01
MISSISSIPPI	64	180	2.81
DELAWARE	72	196	2.72
ARKANSAS	73	178	2.44
MARYLAND	73	192	2.63

Exposure is in mrem/year average for the state as reported in ORP/SID 72-1, prepared by U. S. Environmental Protection Agency, Office of Radiation Programs, "Natural Radiation Exposure in the United States," by Donald Oakley, June 1972. The exposure is based on terrestrial and cosmic radiation and does not include exposure from Radon gas and decay products.

Cancer is the average annual mortality rate for the state for all forms of cancer in deaths per 100,000 from 1987 to 1991 as reported in "Cancer Facts and Figures - 1995," prepared by the American Cancer Society.

Ratio is the average annual cancer rate / average annual radiation exposure.

Health Physics Society*
Position Statement

"RADIATION RISK IN PERSPECTIVE"

Kenneth L. Mossman, Marvin Goldman, Frank Massé, William A. Mills, Keith J. Schiager, Richard J. Vetter

In accordance with current knowledge of radiation health risks, the Health Physics Society recommends against quantitative estimation of health risk below an individual dose of 5 rem[1] in one year or a lifetime dose of 10 rem in addition to background radiation. Risk estimation in this dose range should be strictly qualitative accentuating a range of hypothetical health outcomes with an emphasis on the likely possibility of zero adverse health effects. The current philosophy of radiation protection is based on the assumption that any radiation dose, no matter how small, may result in human health effects, such as cancer and hereditary genetic damage. There is substantial and convincing scientific evidence for health risks at high dose. Below 10 rem (which includes occupational and environmental exposures), risks of health effects are either too small to be observed or are non-existent.

Current radiation protection standards and practices are based on the premise that any radiation dose, no matter how small, can result in detrimental health effects, such as cancer and genetic damage. Further, it is assumed that these effects are produced in direct proportion to the dose received, i.e., doubling the radiation dose results in a doubling of the effect. These two assumptions lead to a dose-response relationship, often referred to as the linear, no-threshold model, for estimating health effects at radiation dose levels of interest. There is, however, substantial scientific evidence that this model is an oversimplification of the dose-response relationship and results in an overestimation of health risks in the low dose range. Biological mechanisms including cellular repair of radiation injury, which are not accounted for by the linear, no-threshold model, reduce the likelihood of cancers and genetic effects.

Radiogenic Health Effects Have Not Been Observed Below 10 Rem

Radiogenic health effects (primarily cancer) are observed in humans only at doses in excess of 10 rem delivered at high dose rates. Below this dose, estimation of adverse health effects is speculative. Risk estimates that are used to predict health effects in exposed individuals or populations are based on epidemiological studies of well-defined populations (e.g., the Japanese survivors of the atomic bombings in 1945 and medical patients) exposed to relatively high doses delivered at high dose rates. Epidemiological studies have not demonstrated adverse health effects in individuals exposed to small doses (less than 10 rem) delivered in a period of many years.

Limit Quantitative Risk Assessment to Doses at or Above 5 Rem per Year or 10 Rem Lifetime

In view of the above, the Society has concluded that estimates of risk should be limited to individuals receiving a dose of at least 5 rem in one year or a lifetime dose of at least 10 rem in addition to natural background. Below these doses, risk estimates should not be used; expressions of risk should only be qualitative emphasizing the inability to detect any increased health detriment (i.e., zero health effects is the most likely outcome).

Impact On Radiation Protection

Limiting the use of quantitative risk assessment, as described above, has the following implications for radiation protection:

(a) The possibility that health effects might occur at small doses should not be entirely discounted. Consequently, risk assessment at low doses should focus on establishing a range of health outcomes in the dose range of interest including the possibility of zero health effects.

(b) Collective dose (the sum of individual doses in an exposed population expressed as person-rem) remains a useful index for quantifying dose in large populations and in comparing the magnitude of exposures from different radiation sources. However, for a population in which all individuals receive lifetime doses of less than 10 rem above background, collective dose is a highly speculative and uncertain measure of risk and should not be quantified for the purposes of estimating population health risks.

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[1]The rem is the unit of effective dose. In international units, 1 rem=0.01 sievert (Sv).

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*The Health Physics Society is a non-profit scientific organization dedicated exclusively to the protection of people and the environment from radiation. Since its formation in 1956, the Society has grown to more than 6,800 scientists, physicians, engineers, lawyers, and other professionals representing academia, industry, government, national laboratories, trade unions, and other organizations. The Society's objective is the protection of people and the environment from unnecessary exposure to radiation, and its concern is understanding, evaluating, and controlling the risks from radiation exposure relative to the benefits derived from the activities that produce the exposures. Official Position Statements are prepared and adopted in accordance with standard policies and procedures of the Society. The Society may be contacted at: 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101; Telephone: 703-790-1745; FAX: 703-790-2672; e-mail: hpsburkmgt@aol.com. ■

Scottsdale Radon Panel

Raymond Johnson, President, Radon Section

The Radon Section hosted a panel on radon health risks at the HPS Midyear meeting with presentations by myself, William Mills, and Naomi Harley.

I discussed "Why Some Scientists and the Public Do Not Believe in Radon Risks." I suggested that most of the radon risk controversy is about the estimates of effects for radon exposures at levels found in homes. Such estimates rely upon linear extrapolations from observed lung cancer incidence in miners. Risk coefficients derived from miner studies, adjusted for differences between miner exposures and home exposures, are then multiplied by the estimated population exposure to estimate population risks. For example, EPA has determined that lifetime exposure to a million person-WLM y^{-1} should result in 224 lung cancer deaths a year. When multiplied by the estimated U.S. exposure of 62 million person-WLM y^{-1}, the radon risk in the U.S. is estimated at 14,000 lung cancer deaths y^{-1}.

Radon risks are not easily understood by the general public and most people are not too concerned about radon unless that they are buying a home. In light of the uncertainties on radon risk, what do we tell the public? I concluded that the prudent public health message should continue to be "test your home for radon and mitigate if the levels are above 4 pCi L^{-1} according to EPA and State protocols."

Bill Mills described the origins of the radon action level at 4 pCi L^{-1} (150 Bq m^{-3}). He noted that the 1970 Surgeon General's guidelines called for remediation for radon above 0.05 WL. Remediation was indicated for levels between 0.01 to 0.05 WL and no action was recommended below 0.01 WL. These guides were above a background of 0.01 WL. When these guidelines were implemented in Colorado, the decision was made for remediation at 0.01 WL above background. Thus the action level of 0.02 WL (4 pCi L^{-1}) was derived. He concluded that 4 pCi L^{-1} is too low.

Naomi Harley discussed the limitations with epidemiology studies of miners. She noted that risk models derived from such studies usually overestimate risks. She emphasized that some miner cohorts are outliers and should not be used. She felt that the Colorado miner cohort still represented the best data with a relative risk of about 0.004 WLM^{-1}.

Naomi gave a dose conversion factor of 1 mSv y^{-1} for 1 pCi L^{-1} (37 Bq m^{-3}) and noted that this corresponds to the current population dose limit of 1 mSv y^{-1}. She noted that, at the current occupational limit, 4 WLM y^{-1} for 30 years gives 120 CWLM. At 4-8 pCi L^{-1}, exposures in homes would give about 1-2 WLM y^{-1} or 30-60 CWLM for 30 years. She reported that the latest NCRP risk assessment at 1-2 WLM y^{-1} is expected to result in a 1-6 percent increase in lifetime lung cancer risk.

Audience Response

Otta Raabe asked for a show of hands on how many believed that radon caused more than 10,000 lung cancer deaths a year in the U.S. No one raised a hand. Most of the audience voted for a number less than 1,000. This response was interesting as an indication of radon risk perceptions among HPs. Naomi indicated that the estimate of 14,000 lung cancer deaths y^{-1} may be overestimated by 2-3X. I asked if HPs should ignore radon if the real risks are only a 1,000 y^{-1}? I also asked, if we agree that radon is the largest source of radiation dose at 1-2 mSv y^{-1}, how can we discount radon risks and still justify our jobs as HPs when we are implementing ALARA programs to protect workers at a few tenths of a mSv y^{-1}?

Ken Mossman said that our message to the public should be "stop smoking." Naomi said the HPS should focus on radon, but note that smoking and radon greatly increase lung cancer risk. One HP indicated that public funds would be better spent on promoting child immunization. He received a large round of applause. ■

Contrary to
the
DATA

Radiation
MUST
be
Dangerous

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SAINT BARNABAS MEDICAL CENTER

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USNRC

RONALD J. DEL MAURO
President and Chief Executive Officer

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DOCKETING & SERVICE
BRANCH

DOCKET NUMBER
PROPOSED RULE PR 20
(60FR63984)
(37)

March 14, 1996

U.S. Nuclear Regulatory Commission
Attn: Docketing and Services Branch
Washington, D.C. 20555-0001

Gentlemen:

This is in response to the NRC's recent proposed rule regarding Constraint Level for Air Emissions of Radionuclides (60 FR 63984). I believe that **medical licensees should be exempt** from this requirement, should it be enacted. Except for those few facilities that use Xe.-133, medical licensees will not have **any** air emissions into the environment. Licensees should not have to perform calculations, with numerous assumptions, for events that will not occur. In addition, only **actual events** should be reported, **not** estimates. With respects to Xenon, those users are currently required to calculate clearance times and internal exposures. These measures take into account estimates of "spills" and are the basis for instructions should one actually occur. Again, I believe due to lack of emissions for the vast majority of medical uses of radiation, these licensees should be exempt from any such regulations.

Sincerely yours,

Ira M. Garelick, M.S. D.A.B.R
Health Physicist

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PDR

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DOCKET NUMBER
PROPOSED RULE PR 20
(60FR6998)

(38)

Dr. Shirley Jackson
Chairman
Nuclear Regulatory Commission
Mailstop 16G15
Washington, DC 20555

Thursday, March 07, 1996

Draft Regulatory Guide DG-8016

Dear Dr. Jackson,

The attached letter to the Rules Review and Directives Branch of your agency is the official comment by the American Nuclear Society on the proposed rescission of 40 CFR Part 61 Subpart I and the implementation of DG-8016 (Revision 1 to Regulatory Guide 8.37.)

In summary, we agree with the proposed action in the interests of avoiding dual regulatory oversight, making note of the need to exclude radon from the 'constraint limit' and noting also that the proposed constraint should not be coupled with the ALARA concept. So much for the rule.

I would now like to raise, in this covering letter, a wider issue. As a you know, the emission constraint level of 10 mRem/yr is illustrative of the lack of realism which has crept into US regulations over the last two decades. First, the value is nonsense when measured against the everyday variability of dose rates to the public; second, it is a constraint based on an contrived calculation rather than a measured occurrence; and third, it is an example of creeping reg lation in which a voluntary constraint later can become a hard-line regulation.

I am particularly concerned on the first count, for, as you know, recent data shows that reducing radioactive doses as close to background as possible is not necessarily to the benefit of the human population involved. The data, derived principally from the RERF studies of 70,000 bomb survivors, and their 90,000 progeny over two human-generation times, is not in question. It is supported by a wealth of excellent epidemiological investigations as well as studies at the cellular level which show well-defined thresholds to harm. What is in question appears to be the will of those involved in producing standards upon which regulations are based.

We need to spend available funds in limiting high risks to the public -- maybe through regulatory oversight of DOE facilities and operations, but surely not in limiting doses in the millirem range. We need to prepare for change.

JOHN GRAHAM, PRESIDENT

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The American Nuclear Society urges the Nuclear Regulatory Commission to support responsible risk-based regulation firmly based on available data, rather than forty-year-old conservatism. That conservatism was based on an absence of data and was appropriate for its time -- it is not now. The NRC is charged with making a risk determination in regulating the use of nuclear materials, and we believe that that responsibility involves more than just an acceptance of existing standards. There should be an ongoing program which addresses changing views of risk with the intention of reviewing the data and, perhaps, relaxing regulatory limits in the years ahead.

We are willing to assist. The American Nuclear Society, as an association of professionals engaged in work across the whole spectrum of nuclear science and technology, is in a unique position to assist the NRC by independently compiling and evaluating the available data outside the context of any commercial operations. If you feel that there is value in our offer, I and my colleagues, would be happy to meet with your staff on the issue.

Yours sincerely

John Graham

John Graham
President

AMERICAN NUCLEAR SOCIETY

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March 6, 1996

Rules Review and Directives Branch
DFIPS, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Re: Comments of Draft Regulatory Guide DG-8016 (Proposed Revision 1 to Regulatory Guide 8.37); Constraints for Air Effluents for Licensees other than Power Reactors

Gentlemen:

The American Nuclear Society is a 15,000-strong professional association of members who work in the nuclear industry, nuclear medical facilities, universities, national laboratories, government, and elsewhere. Our members are employed in all aspects of nuclear technology, from fundamental research to nuclear medicine, electric power generation, and general industrial activities. As a general matter, the American Nuclear Society (ANS) supports the rescission of 40 C.F.R. Part 61 Subpart I and implementation of Revision 1 to Regulatory Guide 8.37, as long as NRC's constraint rule excludes radon from the 10 mrem/yr "constraint" limit. ANS believes Subpart I imposes unnecessary, confusing and complicated duplicative regulatory requirements that burden licensees without producing commensurate public health benefits.

Subpart I facilities are already more than adequately regulated under 40 C.F.R. 190 (the so-called 25 mrem rule) promulgated by EPA pursuant to the Atomic Energy Act (AEA) and conformed to and enforced by NRC in 10 C.F.R. 20.1101 and 20.1301. EPA provides no sound information to suggest that the current AEA regulatory program applicable to these sites has not provided an ample margin of public health and safety. To the contrary, EPA's own surveys and computer models show that even without a constraint rule, "virtually all of the facilities would cause doses to members of the public which are below 10 mrem/yr" (60 Fed. Reg. 50163). EPA's survey of Subpart I licensees found that "all surveyed facilities are presently in compliance with the quantitative emission limit in Subpart I [10 mrem/yr limit]" -- a far higher compliance percentage than exists in any EPA regulatory program (57 Fed. Reg. 56879, December 1, 1992.) Additionally, the EPA/NRC AEA program is more comprehensive than Subpart I because, unlike the Clean Air Act which addresses only airborne radioactivity, the AEA regulations cover exposure from all pathways. Thus, while the constraint rule is totally unnecessary, it would indeed assure that emissions remain below 10 mrem/yr.

Specific comments on the draft regulatory guide (DG-8016) include the following:

1. This proposed 10 mrem/yr constraint should <u>not</u> be coupled to the ALARA concept. ALARA is an operating philosophy, not a quantifiable entity. By defining 10 mrem/yr as an "ALARA constraint," the NRC is attempting to regulate a philosophy with that may evolve into a de facto limit. Paragraph 20.1101(b) in 10CFR20 is sufficient to ensure that ALARA principles are incorporated into radiological operations. The following changes to the proposed 10CFR20

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language will define the 10 mrem/yr constraint concept while retaining ALARA as an operating philosophy.

(a) In proposed Sec 20.1101(d), delete the phrase "To implement the ALARA requirements of Sec 20.1101(b), and...." Begin Sec 20.1101(d) with "notwithstanding the requirements...."

(b) In proposed Sec 20.2203(a)(2)(vi), delete the word "ALARA."

(c) In proposed Sec 203(b)(1)(iv), delete the word "ALARA."

2. The ANS supports the rescission of Subpart I provided that radon and its decay products are excluded from the calculated effective dose equivalent to determine compliance with the proposed ten (10) millirem (mrem) total effective dose equivalent (TEDE) constraint level". The exclusion for doses due to radon and its progeny, already a part of Subpart I should be carried over into any newly developed constraint level when Subpart I is rescinded and NRC assumes sole regulatory responsibility.

3. Since the proposed constraint level applies only to emissions from NRC licensed facilities and operations, emissions from adjoining unlicensed operations or unlicensed portions of operations which include an NRC licensed restricted area, should be categorically excluded.

4. Individual licensees should be allowed latitude in methodology used to determine compliance with the new constraint level, due to: (1) differing types of emissions, or differing combinations and forms of radionuclides; and (2) variability in natural background. The draft regulatory guide limits the licensee to only three methods of determining compliance, including (1) measurement of air concentration at point of release; (2) modeling; and (3) use of NCRP commentary No. 3, but provides that "the simplest model that will adequately address the problem should be applied first..." The EPA has allowed use of measurements of radionuclide concentrations at critical receptor locations to determine compliance with 40 CFR Part 61 Subpart I. This method is superior to the three proposed in the draft regulatory guide in that actual data are used (rather than modeling) and is more appropriate useful when nonpoint sources are involved.

The American Nuclear Society appreciates the opportunity to comment on this matter. I can be reached at (303) 694-0700.

Sincerely,

John Graham

John Graham
President

JG/ab